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THE

ANIMAL KINGDOM

ARRANGED IN CONFORMITY WITH ITS ORGANIZATION,

BY THE BARON CUVIER,

MEMBER OF THE INSTITUTE OF FRANCE, &c. &c. &c.

WITH

ADDITIONAL DESCRIPTIONS

OF

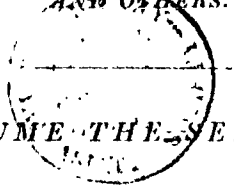
ALL THE SPECIES HITHERTO NAMED, AND OF MANY NOT BEFORE NOTICED,

BY

EDWARD GRIFFITH, F.L.S., A.S.,

CORRESPONDING MEMBER OF THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA, &c.

AND OTHERS.



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LONDON:
SHACKELL AND BAYLIS, JOHNSON'S-COURT, FLEET-STREET.

THE

CLASS AVES

ARRANGED BY THE

BARON CUVIER,

WITH

SPECIFIC DESCRIPTIONS

BY

EDWARD GRIFFITH, F.L.S., A.S., &c.

AND

EDWARD PIDGEON, Esq.

THE ADDITIONAL SPECIES INSERTED IN THE TEXT OF CUVIER

BY

JOHN EDWARD GRAY, Esq., F.G.S., &c.

VOLUME THE SECOND.

LONDON:

PRINTED FOR WHITTAKER, TREACHER, AND CO.

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Errata in the Plates.

The Satin Gracle, both Plates, for *Macleyii*, read *Macleayii.*
Double-crested Lark, for *Cilopha*, read *Bilopha.*
Natterer's Nutchatch, for *Anabatiodes*, read *Anabatoides.*
Sumatra Bee-eater, for *Merors*, read *Merops.*

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Page	*Line*				
50	22	*for*	Throythorus	*read*	Thryotherus
62	15	..	Holm	..	Stockh
67	26	..	Fancica	..	Francica
72	11	..	Isabellanus	..	Isabellinus
73	10	..	climaturus	..	climacurus
75	3	..	macrurus	..	macrourus
75	26	..	in	..	n.
77	15	..	subtulated	..	subulated
77	21	..	gerrated	..	serrated
115	24	dele	It may possibly be the female of Dr. Latham.		
122	23	..	Oranor	..	Oranoir
334		..	Bennet's Magpie	..	Bernet's Magpie*
352	note	..	amgustirostus	..	angustirostris
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365	9	..	brassy	..	grass
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374	7	..	mesolencos	..	mesolencus
381	13	..	Poriss	..	Briss
381	16	..	sonimanga and calibris		souimanga and colibris
383	14	..	Praner	..	Promer.
579	3	..	Matous	..	Matons

* This bird is described by Mr. Vigors in Vol. IV. of the Zoological Journal, under the name *Pica Colliei*.

THE

SECOND ORDER

OF

BIRDS.

SUPPLEMENT ON THE DENTIROSTRES.

(CONTINUED.)

This bird is of a shining metallic black—with feathers of a silky and glistening character, and the point of the bill and the feet inclining to yellow. The female is green above, paler underneath, and variegated with white spots, and fuscous lunules. The wing-coverts, remiges and rectrices, are of a rufous brown.

Mr. Vigors and Dr. Horsfield have designated this bird (which hitherto had received no scientific name) from the late respected Secretary of the Linnæan Society, and called it *Ptilonorhynchus Macleayii.*

We insert a figure of both male and female from the Museum of the Linnæan Society.

Lyres (Mænura) are birds of New Holland, whose description will be found in our text. Of their habits, unluckily, little or nothing can be said with any certainty. They are said generally to remain on trees, and never to descend except for the purpose of seeking food.

The only notions we have concerning the manners of the Manakins (Pipra) are owing to Sonnini, who has observed them in Guiana, where they prefer humid and cool woods to the hot and dry lands. They do not, however, frequent

marshes or the borders of streams; their flight is rapid, but short, and low; they only perch on the middle branches of trees in the woods, which they never quit to proceed into the open plains or to the neighbourhood of habitations. They assemble in the morning, in small troops from eight to ten in number, of the same species, and frequently join company with other small birds. At such times, their chirping is rather agreeable. But, about nine or ten o'clock, they separate, and retire alone, until the following day, into the most shady recesses of the forests. Their food consists of little wild fruits, and they also eat insects.

The *Rupicola, Coq de Roche,* and *Rock Manakin,* of Latham, has been ranged with the manakins, but with little propriety, being a bird differing from them considerably in size and habits. It inhabits in Guiana and other parts of South America, the deep clefts of rocks, and still more frequently large and obscure caverns, where the light of day cannot penetrate. This circumstance has caused many to believe that it was a nocturnal bird, but as it flies during the day, others have placed it among the diurnal. It is, however now well known that many of the howlers, and other birds reputed nocturnal, do the same thing. There is also another point of approximation between the rupicolæ and the nocturnal birds. The former are found more frequently in their obscure habitations, than in open places. Great numbers of them are discovered in caverns, where one cannot enter but with torches. The male and female are equally lively, and extremely wild. It is impossible to shoot them, but by remaining concealed behind some rock: here it is necessary to wait many hours before they come within range of shot; for the instant they perceive the hunter, they fly off very rapidly, but their flight is short and low. The males come forth from the caverns more frequently than the females, which seldom show themselves, and probably only come out during the night. They place their nest in the hole of a

H Kearsley del.
Illus Lin Soc

THE SATIN GRACKLE. *Female*

PTILORHYNCHUS MAC LEYII. Vigors & Horsfield

London, Published by G.B. Whittaker Oct. 1828

H. Kearsley del.

Mus. Lin. Soc.

THE SATIN GRACKLE. *Male.*

PTILORHYNCHUS MACLEYII. Vigors & Horsfield.

London, Published by G.H. Whittaker, Oct. 1828.

rock; it is rudely constructed of dry branches, and the female usually lays two spherical and white eggs, about the size of a pigeon's egg. They feed on small wild fruits: they have the habit of scratching the ground, and clapping and shaking their wings like cocks and hens; but this is the only point of relation between them and the latter birds, for they have neither the cry of the hen, nor the crowing of the cock: they are easily tamed, and sometimes left at liberty to live and run about with the poultry.

We now come to our author's great family of MOTACILLA, which he terms in French, "*bec-fins*," from the general tenuity of the beak: they are most of them comprehended under Latham's genus of the WARBLERS. The first division are the *traquets*, a word which we must preserve.*

BECHSTEIN and Meyer term these birds *saxicola*, M. Vieillot, after Gesner, Willoughby, and Ray, has preserved to them the denomination of *œnanthe*.

They inhabit during the fine season, dry and stoney places; those, called in French, *tariers*, are more partial to herbage, whether on the mountains or in the plains; all nestle on the ground: some in a tuft of grass, others in a

* We may remark the very serious inconvenience to which a translator of French works in natural history is subjected, by the names given to subdivisions. It is always difficult, and often impossible, to find a proper English equivalent. The names of species are given to genera, and subgenera; and, in many cases, were we to translate these names, we should convey to the reader a wrong idea of the animals comprehended under the section; for, in several instances, the animal, whose specific name is thus generalized, actually belongs to a division wholly different. Even when this is not the case, the inconvenience is far from being inconsiderable. The generic name is followed by the same, specifically applied, with some clumsy and circuitous appendage. It is much to be wished that naturalists would agree to speak one and the same language: at present their confusion of tongues occasions a most perplexing and vexatious Babel. For all divisions, except specific ones, scientific names should alone be employed.

hole in the earth, under stones, at the foot of bushes, and sometimes under roots; they rarely perch on the summit of trees, some remain always on the ground, and others on low bushes, &c.

Motacilla Œnanthe, the *Wheat-ear Warbler* of Latham, is a migratory species; they pass only the fine season in France. Those found in our northern climates arrive towards the end of March, and spread themselves through the fields; they are to be seen in lands newly ploughed, always perched upon clods of earth, in French, *mottes*, whence they are named *motteux*. The white colour of the under part of their bodies is discovered when they fly, and causes them to be easily distinguished in the air from all other birds. They seek in the furrows of cultivated lands for insects and small worms, which constitute their principal nourishment; such are the places which they inhabit during the first days of their arrival, and after the hatching. But in spring, they seek untilled or fallow lands, preferring the borders of hills, the rocky slopes of the mountains, and dry places in general; they jump from stone to stone, and avoid the hedges, bushes, and trees, where they are rarely seen to perch except when greatly disturbed; their usual flight is short and rapid, but more elevated during their migrations; they pursue insects on the ground.

The cry of these wheat-ears when disturbed, resembles the syllables, *fur*, *fur*, pronounced rapidly. The male has also another cry which may be thus expressed, *titreu*, *titreu*, which appears to be one of alarm, and is never heard except at hatching time. Clumps of turf, heaps of stones in untilled grounds, little old dry walls, are the places in which these birds generally conceal their nests. Moss and fine plants compose the exterior; feathers and wool line them within. These nests, constructed with great care, are moreover remarkable for a kind of shed placed above them, and cemented against the stone or clump under which they are

situated; the stone or clump is usually turned to the south side, and the entrance of the nest is to the north. Four or five eggs are laid, of an undulating pale blue, and an elongated form; the females are so absorbed in the care of hatching, that they are often taken on the nest. The male, towards the middle of the day, assists her in this care, and, moreover, provides for her subsistence. He is cunning and dextrous in misleading those who might disturb her. If he sees one passing, he runs or flies before him, makes short pauses to draw him to the opposite side, and when he sees him sufficiently remote, he takes a circular flight, and regains the nest. At such moments he is heard more frequently to repeat his cry of alarm.

These birds seldom have, in our parts of the world, more than one brood every year, and as soon as the little ones are feathered, and even some time previously, they quit uncultivated lands, and frequent grounds recently tilled, where they continue until September and October, when the family assembles and sets out on the southern voyage. Some of them are occasionally caught at sea, when, at considerable distances from land, being much fatigued, they drop on the masts of vessels to repose.

These birds inhabit all Europe, Africa, and Southern Asia. Great numbers of them are caught here, especially in Sussex, towards the commencement of autumn, at which time they are fat, and of a delicate favour.

The *Stone-chat Warbler*, (" *traquet proprement dit*,") *Sylvia rubicola*, delights in dry, arid, sloping grounds, and in bushes and briars. It is distinguished by its vivacity and agility. It is always seen hopping from bush to bush, never perching but at the extremity of the most elevated branches of hedges, and shrubs, or at the summit of the highest vine-poles. It rises in the air by little springs, and comes down in a sort of pirouette, appearing and disappearing every moment, and continually agitating its wings and tail; this

movement has been compared to that of the clapper of a mill, from which its French name is taken.

According to Buffon, its cry resembles the word *ouistrata*, frequently repeated, but Dr. Latham thinks that it is more like the clicking of stones together, whence, probably, its English name.

This bird is of a solitary character, being always alone, except during the season of love. It migrates, and arrives in spring alone; it quits this part of Europe in autumn, usually in September; though if the season be mild it remains longer, and has been seen in France in December. As soon as t has chosen a companion, the couple proceed to the construction of the nest, which is placed at the foot of a bush under the roots, or under the covert of a stone, and tolerably deep in the earth. This nest is concealed so well, that it is very difficult to find it, which difficulty is much increased by the many circuits which the bird makes before entering, or after departing. If it wants to enter, it always first crosses different bushes, and when it comes forth it threads cautiously through the brambles, to some distance; so that when we see this bird with a worm or insect in the bill for the young ones, enter a particular bush, it is not there that we must look for the nest, but at the foot of some neighbouring bushes.

The eggs are from five to six, of a greenish white, with some spots of reddish-yellow. The little ones are born covered with down. The parents feed them with worms and insects, which constitute their habitual aliment. Their solicitude is so great that they never cease to cry when they are approached; this even seems to increase when the young ones quit the nest; they call and cry to them continually, and never quit them until they are entirely capable of providing for themselves.

This species is extended throughout Europe, from England and Scotland, to Italy and Greece. It is even found farther north, and is said to have been seen in Siberia. The flesh in

autumn is fat and delicate, not inferior to that of the beccafico in flavour.

We shall now proceed to consider the most remarkable of the family of the Warblers, contained under our author's subgenera, RUBIETTES, *(Sylvia,)* FAUVETTES, *(Curruca,)* ACCENTOR, ROITELET, &c.

These birds are all comprehended by M. Vieillot under the general term FAUVETTE, *Sylvia* of Latham, and *Motacilla* of Linnæus. With the exception of the red-breast, they all leave our climates at that season when they are left destitute of food by the defoliation of the trees, and the death or lethargy of the insect tribe. But as soon as the flowers begin to blow, and the woods put on the livery of spring, we find the numerous family of the warblers re-appear, and disperse themselves through our groves and fields. Many establish themselves in gardens and shrubberies, others prefer the borders of coppices or the deep recesses of the woods; and some, in fine, are partial to the neighbourhood of water, where they fix their domicile. They all spread animation through the places which they inhabit, by the gaiety of their songs, the variety, the vivacity of their movements, their sportive tricks, and amorous combats.

Some of these birds feed on insects only; others unite with these, berries and succulent fruits. When they are nourished with grapes, figs, mulberries, &c. they grow fat, and their flesh becomes as savoury as that of the beccafico, with which bird they are frequently confounded in the south of Europe. Thickets, groves, shrubberies, &c. are the places where the majority of them choose to establish their nests, while others prefer reeds and rushes. Some confide their progeny to the hollows of walls, rocks, and trees. Some of the *reguli* nestle on the ground, and give to their nest the form of a little oven. The usual number of eggs among the majority is from four to five; a few of the *reguli* lay from six to eight.

The nomenclature of these birds, in various authors, presents a chaos, which we may say, we trust, without profaneness, would almost require the voice of a Deity to reduce to order—a confused, undigested accumulation, where we may well say,

> "Nulli sua forma manebat,
> Obstabatque aliis aliud."

It is most surprising that this should be the case with European birds, familiar to every observer, yet such is the fact. Authors have separated what they should have united, and united what they should have separated. The figures, too, given of these birds have, for the most part, contributed to increase the embarrassment. They have been either defective, or if correct, not in accordance either with text, or synonime. Linnæus, the grand guide of almost all naturalists, has sometimes occasioned mistakes, by indicating specific characters incompletely, or in a manner which rendered them susceptible of application to different species. Brisson has described very well such species as he had seen, but has not been equally happy in the use of synonimes. Buffon, who flattered himself that he had thrown some light on this subject, has only proved how contagious is error when supported by an eminent name. His mistakes, repeated by other naturalists, have passed with the great majority for incontestible truths. It is easy, however, to perceive, that in his illuminated plates, many figures of warblers of Europe are far from being in accordance with the text: so little so, indeed, that one cannot help believing that he did not always compare his descriptions with the figures. Even his history of many species is wanting in exactitude. He often attributes to one bird, the manners, the song, the nest, and the eggs of another. Subsequent naturalists have much increased this confusion, by the erroneous citations of synonimes, and specific periphrases, by no means analogous.

Our business, here, however, is not with classification or specific description; we shall, therefore, confine ourselves to the notice of the more distinguished species in whose natural history there is any thing remarkable or interesting to record.

We shall begin with that well known bird, the *Red-breast (Sylvia rubecula)*.

It is found all over Europe, from Spain and Italy, to Sweden. It inhabits this country at all seasons, but seems more numerous in winter, as it then approaches the habitations of man. In France, the red-breasts are more numerous in Lorraine and Burgundy than elsewhere. They are very much sought after there, and their flesh acquires an exquisite fat, which renders it a very delicate meat, and which is doubtless owing to the abundance of fruits and tender berries, which constitute the principal nutriment of all the insectivorous birds in autumn. It is not so in the other provinces, and accordingly its flesh is little esteemed there. Of the birds of this species some do not quit their native country, while others, and those constitute the greatest number, prepare for their departure at the epoch when the red colour commences to appear in the breast of the young, whose plumage, during the moulting, presents an agreeable variety, from the mixture of the tints of infancy, and the colours of more advanced age.

In all seasons the red-breast preserves its solitary character. It voyages alone, while on such occasions almost all other birds seek the society of their species, and unite in flocks more or less numerous. In fine weather, the most shady woods and groves, and humid places, constitute its favourite sojourn. They seem to possess so much attraction for it, that it appears to quit them with regret when the frost destroys its sources of subsistence. It is only then that it approaches habitations, and remains in hedges, gardens, and orchards, and enlivens such places, when all other birds are

silent, by a song which is far from disagreeable. The more rigorous the season grows, the more familiar this bird becomes; and when the snow deprives it of all nourishment abroad, or renders it difficult to be procured, it comes into houses, to seek the crumbs from the table, fibres of meat, and various grains, for at this period it is omnivorous. It exhibits so much desire to enter the houses, that if every avenue is closed, it will strike at the windows with its bill for admission, which is always willingly granted. It soon grows so familiar that it will remain there the whole winter, if undisturbed, without showing the slightest inclination to depart. On the approach of spring, it will give the same signal, to indicate its desire of returning into its solitude.

The red-breast which remains in the forest becomes the companion of the woodman, warms itself at his fire, picks his bread, and never ceases the entire day to flutter around him. It always shows an affection for man, and seems to delight in his company. It follows or precedes travellers in the forests, and that for a very long time. Less wild than other birds, it will suffer itself to be approached so nearly, as to make one imagine that it can be caught with the hand, but as soon as it is within reach, it hops on further, where it remains for the purpose of again removing in the same manner.

In spring, when the red-breasts which migrate return, they are seen in greater numbers in orchards and gardens, though but for a short time: they soon hasten to the distant woods to enjoy the sweets of solitude and love, beneath the embowering foliage. Forests of great extent, especially such as are provided with springs of living water, are the haunts which they prefer, and where they are found in the greatest numbers.

Of all birds, the red-breast is one of the earliest, its song being heard from the dawn of day. It is also the last which is seen to flutter after the setting of the sun. Its song, composed of light, delicate, and tender sounds, is but a chirp-

ing, during the winter season. But at the time of reproduction, it receives its full extent, is terminated by louder modulations, and interspersed with soft and touching tones. It has different cries, one which is heard afar, especially in the morning and evening, and when it is moved by any new object. This is loud and abrupt; the other is a sort of chirp which seems to be a note of call, for it is sufficient to imitate it by sucking the finger, to assemble all the red-breasts in the neighbourhood.

This lover of solitude chooses obscure places, in which to build its nest. It conceals it more or less near to the earth, in the roots of trees, in tufts of ivy, or in very thick bushes. It is composed externally of moss, mingled with hair and oak leaves, and furnished within with the hair of cattle and feathers. There are some red-breasts, says Willoughby, which, after constructing this nest, cover it with accumulated leaves, and under this mass leave a narrow oblique entrance, which they stop up with a leaf on going out. From five to seven whitish eggs, spotted with reddish, constitute the lay. The male covers them in the middle of the day, while the female goes in search of food. Like the nightingale, the male red-breast will suffer no other bird of its own species in the particular district which it has adopted. It pursues it violently the moment it appears, and soon forces it to retire. The female has two or three broods during the year, and the young ones are fed with worms and insects, which the parents hunt with much dexterity. Taken adult in the after season, the red-breast may be easily retained in captivity, and will sing for some time after the loss of liberty. It may be preserved, by giving it the same food as the nightingale receives.

In the back season, this bird joins to its natural insectivorous regimen, tender berries and fruits of different kinds. Its flesh is then delicate, and in estimation.

The Blue-throated Warbler (Sylvia Suecica) has a similar

mode of living, and the same familiarity as the red-breast, but differs in some of its habits from that bird. The latter, during summer, seeks for solitude in the depths of the forest, but the blue-throat confines itself to their borders, seeks marshes, humid places, osieries, and even reeds. After the fine season it quits them, and, previously to its departure, visits hedges and gardens, where it may be taken without much difficulty. These birds, like the red-breasts, are not encountered in flocks, and rarely more than two are ever seen together. Towards the end of summer, they frequent cultivated fields, and especially fields of pease, whither they are no doubt attracted by the numerous insects which are found there. But in autumn, when they voyage to the south, they eat various berries. When this bird is on the ground, it carries its tail elevated.

This species is much less numerous than the red-breasts every where.

It places its nest commonly on willows, briars, and other shrubs which grow on humid places, and constructs it of grass, interlaced at the origin of the boughs or branches.

We now come to that most celebrated of birds, in both ancient and modern times, the *Nightingale (Sylvia Luscinia)*.

This species appertains to the old world. It inhabits Europe from Italy and Spain, as far as Sweden, and is also found in Siberia and a part of Asia. We are also informed that it has been seen in China and Japan; but there are some countries in which it delights more than others. There are some where it does not even remain.

The nightingales quit the temperate countries of Europe in autumn. As there was no certainty of any being found in Africa, it was imagined that they retired into Asia. But at present, it is known that those of Europe do take refuge in Africa, to pass the winter. Sonnini informs us that there are nightingales in the most eastern part of that great continent, and that in autumn, they arrive in Lower Egypt. This

traveller has seen several during the winter, on the fresh and smiling plains of the Delta, and has also witnessed their passage in the islands of the Archipelago. In some parts of Asia Minor, particularly Natolia, the nightingale is common, and never quits the forests or woods which it has chosen for its abode. During their passage through the islands of the Levant, and their sojourn in climates which are foreign to them, as they are not employed in the reproduction of their species, these delightful songsters never pour forth their enchanting melody. There seems no doubt but that some of them retire into Barbary, as they are found in greater numbers in the countries bordering on the Mediterranean, at that time than at any other. They are to be seen there, when they have totally disappeared from our more northern climates, and nearly a month sooner than they reappear in the north. They advance thither only in proportion as the cold relaxes: they set out and return with the common warblers, the fig-eaters, the beccaficos, and other insectivorous birds. So powerful is the instinct of migration in the nightingale, that those which are retained in captivity are observed to be particularly agitated, especially during the night, at the usual periods when the species migrate. These birds change places, not only to avoid the cold, but also to seek out the countries in which they can procure a suitable aliment.

The nightingale, naturally timid and solitary, migrates, arrives, and departs alone. It appears in England in the middle of April, or at farthest in the beginning of May. In France, a little sooner. It remains at first among the hedges which border cultivated lands and gardens, where it finds a more abundant nutriment. But it remains there but for a short time, for as soon as the forests begin to be covered with verdure, it retires into the woods and thickets where it delights in the thick foliage. The shelter of a hill-side, the neighbourhood of some purling stream, the proximity of an

echo, are the haunts which it usually prefers. The male has always two or three favourite trees, on which it delights to sing, and seldom will it give any where else to its voice all the compass of which it is capable. The one it most particularly prefers is that which is nearest to the nest, on which it ever keeps a watchful eye. Once mated, it will never suffer any of its own species to approach the district which it has chosen, the extent of which depends on the greater or less abundance of nutriment which it affords for the subsistence of the family. We find that where food is abundant, the distance between the nests is considerably less. Jealousy, however, has something to do with the extent of their mutual distance, for the males fight outrageously for the choice of a companion. These combats are frequently reiterated at the period of the arrival of the nightingales. It is a common opinion that the females are much less numerous in this species, but this may partly arise, as Dr. Latham well observes, from the males migrating sooner than the females, in consequence of which more of them are caught at such periods.

They commence the construction of their nests about the beginning of May. Coarse weeds and dried oak leaves are employed in great quantities without. Horse-hair, little roots, and cow's hair furnish the inside. The whole is bound together, but in so fragile a manner that as soon as the nest is displaced the whole edifice crumbles to pieces. It is usually constructed near the ground, in brush-wood, at the foot of a hedge, &c. or on the lowest branches of some tufted shrub. The eggs are four or five in number, and of a greenish brown. It is said that the male does not partake the incubation, which would be an exception to the established order among insectivorous birds, all of which relieve their females in this care towards the middle of the day. Such a supposed exception, however, demands, before it can be admitted, the best authenticated observations, confirmatory of its existence.

It is also reported that the female quits the nest but once

in the four-and-twenty hours to take food; this would be a long time for a bird to fast that feeds on insects: but the truth is, that the male supplies her with food in the course of the day. As soon as the young have broken the shell, both parents take equal care of them, but they do not disgorge the food for them, like canaries. In this point they do not differ from the other insectivorous birds, for, like them, they have no crop. They fill their beak, as far as the œsophagus, with small worms, naked caterpillars, ant's eggs, and those of other insects, which they distribute equally to the young. When the food is abundant near the nest, they content themselves with carrying it at the end of their beak, as they do when they bring up their young in aviaries. The little ones have the body covered with feathers in less than fifteen days, and quit the nest before they are able to fly. They then are observed to follow their parents, jumping from branch to branch. As soon as they can flutter, the male takes care of the rest of their education, while the female is occupied in constructing a new nest for the second brood; she has generally two in the year, seldom three, at least in our part of the world, except the first has been destroyed, which often occurs, after the placing of the nest.

After the birth of the first brood the nightingale ceases to sing, and is seldom heard during the second hatching, however late it may take place. But it often utters a piercing cry, especially in the evening, which is heard at a great distance, and a kind of low, hoarse, croaking, which the father and mother repeat incessantly, whenever the nest is approached. These are cries of inquietude and alarm, which far from proving a security, serve only to reveal the place of concealment, and expose the young to danger; still, at this signal, the young family remains motionless, squats down on the branches, or conceals itself in the bushes, and especially preserves a most profound silence.

Towards the end of August, or even sooner, if their

habitual nourishment grows rare in the woods, they quit them, both young and old, to approach green hedges, lands newly ploughed, and gardens where it is more abundant, and they then unite to it tender berries and fruits. Their flesh then grows fat and delicate, and is much esteemed in some places, especially in Gascony in France. But neither there nor elsewhere, are they fattened for table as some naturalists have asserted.

The nightingale, has, of all other birds, a voice of the greatest harmony, variety, and compass. Even the mocking thrush, which some have set far above it, has been universally pronounced by all, who have heard both birds, to be much inferior, to hold at least but the second rank, among the feathered songsters. The nightingale unites the talents of all the singing birds, and succeeds in every style; sixteen different burdens may be reckoned in its song, well determined by the first and last notes. It can sustain the song uninterrupted during twenty seconds, and the sphere which its voice can fill is at least a mile in diameter. Song is so peculiarly the attribute of this species, that even the female possesses it, less strong and varied, it is true, than that of the male, but as to the rest entirely resembling it; even in its dreaming sleep the nightingale warbles. What peculiarly constitutes the charm of this bird is, that it never repeats itself, like other birds; it creates at each burden, or passage, and even if it ever resumes the same, it is always with new accents and added embellishments. In calm weather, in the fine nights of spring, when its voice is heard alone, undisturbed by any other sound, nothing can be more ravishing and delightful; then it developes, in their utmost plenitude, all the resources of its incomparable organ; but from the setting in of the summer solstice, it grows more sparing of its song, it is seldom heard, and when it is, there is neither animation nor constancy in its tones. In a few days, at this time, the song altogether ceases, and we hear nothing but

hoarse cries and a croaking sound, in which we would in vain endeavour to recognize the melodious Philomela.

It has long been an object of desire to find the means of enjoying the song of this bird; but to preserve to its voice the charm which in the free bird disappears with the season of love, it is necessary to retain it in captivity. Great patience, attention and care, are necessary in the management of the nightingale, far more than in that of other birds, for it is a captive of a temper very difficult to manage, which renders the desired service only in proportion as it is well treated.

Nightingales are procured in three ways: in the nest, in autumn, or in spring, on their arrival. To find the nest of a nightingale, where there are young ones, it is necessary to go in the morning at sun-rise, and in the evening at sun-set, near the place where the male has been heard to sing, which is generally at no great distance from the nest; it is necessary to remain quiet, without making the least noise. The entrances and exits of the father and mother, and the cries of the young will assuredly indicate the proper place. They should not be taken from the nest until they are well covered with feathers; those of the first brood are preferable, they are always more vigorous and will sing sooner; besides, the moulting, which generally causes some of them to perish, will then come on in the warm weather, when they are better able to support it. They should be put with the nest and some moss in a basket, with an open work lid, and which during the night should be covered with some warm stuff. Care must especially be taken that they do not get out of the basket after receiving their food, as they may catch the gout, which in them is an incurable malady. They must be kept very clean in this basket, until they are able to sustain themselves well upon their limbs; they then are put into a cage, the bottom of which is furnished with moss. It is necessary to be particularly careful in the proper proportion-

ing of their food, for they are so delicate that the slightest excess will destroy them; no regard should be paid to their reiterated demands for food, for they open the bill every instant, whether one approaches them or touches the nest. To succeed properly with them, the following system should be strictly adhered to.

They should receive their first bill-full, half an hour after sun-rise, the second an hour after, and so on from hour to hour, until the last, which is towards the setting of the sun. After which they must be refused, although they demand food; but the last allowance should be a little more than the preceding on account of the night. They should be fed with a small wooden skewer, very smooth, rather slender at the end, and about the breadth of one's little finger. After three weeks or more, they will eat of themselves, and the males begin to warble; they are then separated, and put into different cages, for these birds are fond of living alone.

As these birds are very delicate, the attempt to bring them up in the manner we have described is not always successful; on which account, if it be possible, they should be tended by the father and mother. These may be easily caught by laying nets near the nest, which nets are furnished with the lava of an insect, which abounds in flour, the meal worm (*tenebrio molitor*). As soon as they are taken, they are put with the nest and the young ones into a closet, where very little light is permitted to enter; three delft pots not very deep are provided for them to eat and drink out of; in one of these is water, in the other sixty or seventy of the above-mentioned worms, and in the third the usual aliment given to them, (which we shall explain by and by,) to which are joined the eggs of ants. It is necessary to familiarize them with their new domicile; branches covered with leaves should be put into it, and the floor spread with moss; trees in boxes, evergreens, such as laurels, &c., are still better, as

there will then be no necessity to enter the place and disturb the birds, for the purpose of changing the verdure. By managing in this manner, those who bring up these birds will soon have the satisfaction of seeing the father and mother take the food which is provided, and give it to the young. These birds have so much affection for their young, that they speedily forget the loss of liberty, lavish on them the same care which they do in the woods, and exhibit for them the same solicitude; they also utter those cries of alarm, when any thing occurs to annoy them, on which signal the young conceal themselves in the moss and foliage.

Those who are desirous of making them nestle the following spring, preserve the old ones, and either put them into separate cages, or give the female and the young of her sex their liberty. The females are easily recognised by their silence, and on the contrary, the young males commence their song as soon as they are able to eat alone. A young one, which a month after this, does not warble, may to a certainty be pronounced a female.

The young ones may receive such instruction as their owners may think proper, but the best is that given by the old nightingale, and he that has the best voice should be chosen, for all do not sing equally well. In proportion as the young male advances in age, his voice is formed by degrees, and is in its full power towards the end of December. It will easily learn different airs, whistled by the mouth, or played on the flageolet, if it be made to hear them constantly for some months. It can even be taught, it is said, to sing alternately with a chorus, to repeat the couplets, and to speak; but it is necessary in this case, to sacrifice its natural song, which is lost altogether, or greatly injured by these foreign acquisitions. This is often a very just source of regret, for as variety constitutes its principal charm, this gives place to a monotony, which in the long run becomes tiresome. Another inconvenience which frequently occurs,

is, that it forgets a portion of its native notes, and acquires only a part of the foreign, from which results an interrupted and imperfect song.

Still if it be deemed necessary to teach it some airs, the mode is this: as soon as it commences to warble, it must be placed in a cage covered with green serge, which is put into a chamber entirely remote from the hearing of every other bird. It must also be free from disturbance of every kind, no one must enter except the person who has charge of the bird, for the utmost tranquillity is indispensably necessary. His cage, during the first eight days, is fastened near the window, after which it is gradually removed thence into the darkest part of the room, where the bird should remain during the whole period of tuition. Six lessons a day will suffice; two in the morning, two in the middle of the day, and two in the evening; those in the morning and evening should be the longest, for then the bird is most attentive. The air designed to be taught, should be repeated ten times at each lesson; the bird will be able to execute two airs with facility, but if more are attempted to be taught, it will generally confound them, and know nothing perfectly.

A deep toned flageolet is the best instrument for teaching the nightingale by. The instructor too, must not abandon his pupil, because he hears it warble on in the usual manner, and appear to derive no profit from his lessons. This will often be the case after the moulting, and even during the entire winter, and yet the bird will repeat the airs which it has heard, in the commencement of spring. Among the young birds so brought up, some will sing during the night, but the major part commence in the morning, more or less early according to the season.

The nightingale taken adult, may be made to sing, if properly treated, if its prison be made as much as possible like its native woods, freed from intrusion, and secured against cold. It should also receive an abundant and

agreeable nutriment. On these conditions it will begin to sing about the end of eight days, and even sooner, if it be not yet mated, that is, before the 25th of April, otherwise it generally dies in consequence of the loss of the female; if taken after the 15th of May, it will not sing at all.

The race which our author notices, of a larger size, in the eastern parts of Europe (*Syl. Philomela*, Meyer), differs from the common nightingale, not only in dimensions, but in depth of colour, and extent of voice. The latter is so powerful, that the bird can hardly be kept in a room; it sings more slowly than the other, and its style is altogether inferior. It can be heard at a much greater distance than the common nightingale, particularly at night.

The nightingale though a timid and solitary bird, is capable, in the long run, of an attachment to the person who tends it. Some have been known to die of regret at the change of masters, and others having been left free to fly into the woods, have voluntarily returned to their captivity. It is very certain that the bird does not like change. It grows sad, unquiet, and ceases to sing, if transported from one situation to another, or even if it changes place in the same apartment; therefore, not to interrupt its song, it should remain in the same spot during the whole season.

Nightingales which are kept in cages, have a habit of bathing themselves after they have sung; they should therefore be provided every day with fresh water. This bird, when not tamed, grows desperate at the sight of any strange object; it would infallibly perish, if placed, like other birds, in a cage open to the light on all sides; it would dash itself against the bars until it was killed. But when the light is excluded, it remains quiet, and consoles itself by singing and eating.

These birds have naturally but two seasons for singing, May and December. But in a state of captivity this order may be changed; for this purpose, the old male is put in a proper cage, and shut up in a closet rendered obscure

by degrees; it is kept there until the end of May, and the light is gradually restored, as it was withdrawn; this produces on the bird the effects of spring, and it will sing in June. The same experiment may then be tried with another bird, and so on to the end of November. Thus with two males, a person may always enjoy the song of one, while the other is silent; but care must be taken, that one shall never hear the song of the other, and that during the winter the cold be carefully excluded. Some deprive the nightingale of sight, for the purpose of making it sing almost continually; but we shall spare our readers the details of this barbarous and disgraceful operation.

Notwithstanding the great obstacle presented by the love of liberty, which is stronger in these birds than almost any others, the means have been found to make them nestle in their prison, and rear their offspring. The best for this purpose, are those which have been caught the preceding spring, and made to bring up their young: the male and female should have been kept in separate cages during the winter, and then placed together (in their cages) in an apartment destined to the desired object, that they may grow accustomed to each other by degrees. They should be suffered to come out of their cages from time to time. This alliance will be all the better, the more it is owing to nature, for the attempt to pair them by force is rarely successful. At the commencement of April their cages are left continually open. They are then furnished with such materials as they are in the habit of employing for their nests: such as oak-leaves, moss, hair, &c. Four fagots of dry and small wood are placed in a corner of the chamber, near the window, one against the other, connected together but loosely, and fixed by the gross end. They are furnished with oak leaves on the top, sides, and between the branches, leaving no opening to facilitate an entrance except one, through which the hand can be passed. There is placed there, moreover, a little

bucket of wood, about two inches deep and three feet in diameter, and filled with earth, and a vase about an inch in depth and filled with water, so that the birds can bathe; this must be renewed every day; but the vase should be withdrawn when the female hatches. This nest should be exposed to a southern aspect, but very close and guarded against the north wind; some curiosi procure themselves a more agreeable enjoyment, by placing the couple in a large aviary, planted with yews, lilacs, &c., or rather in the corner of a garden furnished with these trees, and converted into an aviary by being surrounded with nets. This is the most favourable and certain method. It has been many times observed, that the father and mother may be let go with perfect security as long as the young ones are not able to fly; there is no danger of losing them then. It is only necessary, for the first few days, not to let them both go out at once, but to free the male first, alone, then the female alone, and then both together. But the aperture through which they go out and return, must be near the nest. They will take advantage of this liberty to catch many insects which cannot be procured for them, and which are very necessary to the rearing of their young. It is necessary to avoid entering frequently into the aviary, while the parents have this liberty, and to take especial care that no dog or cat approach, which would be sufficient to make the birds abandon it directly.

There is no man who would not desire to possess, in a garden ornamented with groves, a bird of such extensive, various, and melodious powers of voice, as the nightingale. The means of fixing this charming musician near one's dwelling are these: when the little ones have been for about eight days out of the shell, the father and mother must be taken with nets, as we mentioned before, when the object was to make them rear the young. They must be taken very early in the morning, which may be done in about one hour; as soon as they are caught, they are shut up separately, each in

a silk bag; after which the nest is removed, without touching the young, all the branches upon which it is placed being removed with it. If it is on a shrub, that should be taken away altogether; the whole is transported to the destined spot, and placed in a situation the most similar to that in which the nest was found; then the male is put into one cage, and the female into another. These cages must be covered with green serge, tolerably thick, with a door in front, arranged so that it can be opened from a distance by a packthread attached to it. The nest being fixed, the cages are placed one on each side, at a distance of from twenty-five to thirty paces, so that the young ones shall be nearly in the same line, and between both. The doors should face them. All being thus prepared, the young should be suffered to cry for a certain time until their note of appeal is completely heard, both by father and mother; then the cage of the female should be opened, the person who does so, not showing himself; when she has flown forth, the cage of the male should be opened; the movements of nature will carry them directly to the place where they have heard their little ones cry; they will administer food to them, and continue the same cares until they are brought up. The young family will, it is positively asserted, return thither the following year, and people the adjoining groves; for they are in the habit of returning every year into the places in which they have been reared, if they find abundant nutriment and proper accommodations for nestling. If this be not the case, all the labour we have described will be thrown away.

It is necessary to say a few words, in conclusion, on the food proper for the nightingale in a state of captivity.

This bird, being naturally voracious, will accommodate itself to aliment of every description, provided it be intermixed with meat. Some people feed their nightingales with equal parts of bruised hemp-seed, crumbs of bread, parsley and boiled beef, all hashed small and mixed together; others use

the heart of beef or mutton in the same way, with some farinaceous appendage. These mixtures agree very well with the bird, but must be made fresh every day, as otherwise the meat speedily corrupts, disgusts the bird, and makes it lean and silont. Pastes, however, can be composed for it, that will keep for years, and preserve the bird in excellent health.

The first is made with two pounds of rolled beef, a pound of grey peas, a pound of sweet almonds, an ounce and a half of saffron, in powder, and twelve fresh eggs. The peas must be pounded and sifted; the almonds peeled in hot water, and pounded as fine as possible; the beef should be hashed exceedingly fine, and cleansed carefully from skin, fat, and fibres; the saffron infused in half a goblet of boiling water; all being thus disposed, the eggs are taken and broken in a plate, and then all these ingredients are successively mixed, finishing with the saffron. Round cakes are then formed of it, about the thickness of one's finger, which are dried in the oven, after the bread is withdrawn, or in a large baking pan, rubbed with fresh butter, and placed at a very gentle fire; these cakes are sufficiently dressed, when they have acquired the consistence of new-made biscuits. They are broken and crumbled in the hand for the use of the bird.

The second paste is made like the first, but with half-a-pound of poppy seeds in addition, as much of roasted millet, two ounces of flour, a pound of white honey, and two or three ounces of fresh butter. The peas and the millet are pulverized and sifted; the poppy seeds well pounded, as also the sweet almonds; these each, indeed, should be reduced into a perfect paste, as otherwise the bird cannot digest them. There should be no lumps left; the meat should be prepared as for the first paste, then the eggs should be broken, the yolks of which, alone, should be put into an earthen plate, adding the honey and saffron; when these ingredients are well mixed, the meat, sweet almonds, and flour are

successively incorporated, stirring the whole well with a wooden spatula, so as to make a sort of soup of even consistence and without lumps; then the whole is poured into another large dish of japanned earthenware, the bottom of which must be greased with butter, and placed upon a very mild fire, stirring it continually to prevent the paste from attaching. This process must be continued until it is quite done, which will be known by its no longer sticking to the fingers. It is then taken from the fire and left to cool, completely, in the dish; after which, it is put into a box of white iron, covered with its lid, and kept in a dry place for use.

This paste is difficult to prepare, and its goodness depends upon the exact degree to which it is dried, and which is very much a matter of chance. When too dry, it loses its substance, and it is often necessary to join sheep's heart to it to keep the nightingales in good condition. If, on the contrary, it be not sufficiently dry, it will corrupt, and must be immediately used.

These two preparations are very proper for the nightingale, because they are stimulating, and, it is said, excite the bird to sing. Perfumes are said to have a similar effect. But these pastes are improper for the generality of the warblers, and other small birds with slender bills. For the first few months they agree with them extremely well, and the birds grow fat upon the regimen: in the end they dry them up, and produce consumption.

A provision of the larvæ of the *tenebrio molitor*, or meal-worm, formerly mentioned, should always be kept for the use of the nightingale. They constitute a strengthening food for the bird, during the season in which it sings; they should be laid in during summer, as they are difficult to be got in the commencement of spring. They are preserved in pots of delft or varnished earthenware, very wide bottomed, and fed on bran; some pieces of cork or rotten wood are thrown into this vessel, into which the insects retire, and where they

get fat very speedily. The pots should be of the ware above-mentioned, because these insects would soon escape, if they were put into a box or vessel against which they could climb. For this reason, also, there should be two or three inches difference between the bran and the edges of the opening. This precaution is indispensable, because they could otherwise escape, and also because being exceedingly voracious, they would destroy both books and furniture. The vessel should be kept in a dry place; the bran must be renewed from time to time; it is easy to observe when it is consumed, as it is then reduced to a sort of grey dust; it should be sifted twice a year, and then renewed altogether, for otherwise it contracts a bad odour, and a humidity occasioned by the mixture of the excrements of these insects, which causes them to become emaciated and perish.

To understand the symptoms of illness in the nightingale, it is necessary to be acquainted with the signs of its good health: when in this latter state, it will sing frequently during the season, which is from December to the end of June. We must except, however, the first year of its captivity, in which it is seldom heard before February. It will also frequently pick and cleanse its plumes, especially on the back. It will evince much gaiety and alertness, stirring about in its cage, shaking its wings, &c. Finally, it will sleep on one foot, eat well, and be particularly eager after the insects above mentioned.

Such are the signs of health, but when the nightingale remains during the night at the bottom of its cage, it is a sign of illness, unless its toes should be embarrassed by the attachment of dung, which will happen, if proper attention be not paid to cleanliness. The dung will harden to such a degree, as to prevent the bird from remaining on the perch. In this case, he should be taken out by the hand, and his feet steeped in warm water, to cleanse them. He will also

find much difficulty in perching, if his claws are too long, but it will be sufficient to pare them from time to time.

If the nightingale is attacked with an abscess on the crupper, it should be cut with the point of a scissars, pressed a little with the end of the finger, and the bird should receive some of the insects above mentioned, some wood-lice, and spiders. This malady may be avoided by purging the bird at times, especially in the month of March, with half a dozen of the latter.

When, by dint of singing, the nightingale gets dried up and thin, poppy seed in the paste is excellent for tranquillizing, refreshing, and procuring sleep. Sheep's heart, with the skin, fibres, and veins removed, hashed very fine, and mixed with the paste, fattens it very quickly, as also do figs and elder berries. The poppy seed should be omitted after the moulting, for then the bird grows exceedingly fat, and is exposed to perish of the disease called molten grease.

Constipation may be removed by four or five of the larvæ of the tenebrio, or a large black spider, which is most efficacious.

For diarrhœa, which may be observed by the dung being more liquid than usual, by the continued shaking of the tail, and bristling of the feathers, sheep's heart, prepared as above mentioned, is an excellent remedy.

These birds are subject to the gout, particularly the young ones brought up by hand. Those which have it before they can eat alone, infallibly perish. As soon as they begin to limp, it is loss of time to attempt to rear them. When the old ones taken in the net, are attacked, which rarely happens, it proceeds from the cage being exposed to some wind, through crevices which the bird cannot avoid. It is then sufficient for the purposes of cure, to put it in some warm place. To prevent this malady, the bottom of the cage should be furnished with moss and sand. Of all these complaints, of

which the bird in a state of freedom experiences nothing, the most dangerous is the falling sickness: it will immediately destroy it, if prompt assistance be not rendered.

When the nightingales have swallowed any thing indigestible, they reject it in the form of pills, or little pellets, like the birds of prey. This is not a disease, but proceeds from their having no crop, only a single canal conducting to the stomach.

It is necessary to examine the nightingale twice a year, to see if he be too fat, or too lean, for his external appearance is often deceitful. Sometimes he is ill, without appearing to be so; and sometimes the reverse is the case, from derangement of the feathers. This examination should take place in the months of March and October.

The River Nightingale (*Turdus Arundinaceus*) was placed among the thrushes by former naturalists. Our author places it at the head of the warblers, which immediately follow the nightingale. It inhabits marshes, the borders of ponds and rivers, generally remaining in reeds and hedges, from which it has received its scientific appellation. It climbs along reeds and willows of no great elevation, like the creepers, and lives on the insects which it finds there. The male sings during the night, as well as day, in the season of re-production. Its song, and the habit of remaining in humid places, have obtained it the denomination of river nightingale. Its voice, however, though of considerable compass, has none of the charms of that of the songster of the woods. This bird accompanies its song with lively action, and a tremulous motion of the entire body. It flies heavily, clapping its wings, places its nest on precipitous banks, and in places furnished with moss. It lays about five eggs, of a yellowish white, spotted with brown, and a little larger than those of a sparrow. It is abundant in the South of France, and is also found in the North, but not so frequently. It inhabits the Southern provinces of Russia,

and the islands at the mouth of the Vistula. It does not inhabit England; it is found in Asia, for Sonnerat brought back an individual from the Philippine islands.

The *Reed-wren (Mot. Arundinacea)* is smaller than the last, but very analogous to it in form and habits. These birds frequent the edges of rivers, lakes, and ponds, where they remain in the reeds, and generally in those watered places where these plants cross. They seize their stalks across with their toes, and traverse them jumping along. The male, during the day, and of calm nights, utters a song which may be expressed by the syllables *tran, tran, tran,* repeated a dozen or fifteen times running. The nest is found in the same places which the bird frequents, within about a foot of the water. It is constructed of the same materials as that of the preceding species: leaves and little stalks of aquatic plants, constitute the bed, on which the female lays four or five greenish eggs, irregularly spotted with olive green; these spots are confluent towards the large end. This nest is attached to several reeds, so that it is suspended in air. It is pretended, that by means of three or four loose rings, composed of moss and horse hair, it can be raised or lowered according to the height of the water. This assertion, however, is combated by many naturalists, who affirm that these nests, although suspended in this way, cannot be raised above two or three inches at most, the rings being stopped by the knots of the reeds: therefore if the increase of the water should be considerable, the nests will be submerged. It may be mentioned here, that the inhabitants of Lorraine judge of the height to which the waters will arrive, by the elevation of the nest of the river nightingale.

The *Spotted Warbler* (*Sylvia Nævia*) is the smallest of the aquatic species. It is more frequent in this country than in France, remains usually in thick hedges, briars, and even reeds. The eggs of this species are of a pale blue.

The *Black-cap* (*Sylvia Atricapilla*, Lath.). Of all the

warblers, there is none so affectionate to its female as the male of this species. It shews the same affection for its young, and its song is very agreeable and prolonged. It is of this bird that Buffon speaks, when he says, "The warbler *(fauvette)* was the emblem of transitory love, as the turtle was of fidelity; nevertheless, this same warbler, lively and gay as it is, is not the less loving, or the less faithfully attached on that account; nor is the turtle-dove, in spite of its melancholy and plaintive character, the less a libertine. The male of the atricapilla lavishes on the female a thousand little cares during the time of incubation. It partakes of her solicitude for the little ones, which have just burst the shell, and does not quit her even after the education of the young, for its love appears to remain after its desires are satisfied."

Nothing can alter its tender affection, not even the loss of liberty, if it is deprived of it with its family. It will then feed the young and the female, even forcing the latter to eat, when the chagrin occasioned by captivity would lead her to refuse all sustenance.

The males of this species arrive in the early days of April, but the females do not appear until towards the 15th. If, at this epoch, any return of cold should deprive them of insects, they will feed upon the berries of the laurel, the ivy, the privet, and the hawthorn. It is the same way with such of these birds as a late brood, or other accidents, compel to remain during the winter in our climates, which, however, is a circumstance of rare occurrence.

Immediately after the arrival of the females, these birds employ themselves in the construction of the nest. The male seeks out the most favourable position, and when his choice is made, he appears to announce it to the female, by a sweeter and more tender song. It is almost always in the small bushes of eglantine and hawthorn, at an elevation of two or three feet from the ground, that the female fixes the nest. It is

small and not very deep, composed of dried plants without, and a deal of horsehair within. Four or five eggs are laid, marbled with a deep moronne, on a clearer ground of the same colour. If the eggs are touched, the female will abandon them, though not so speedily as the other warblers. The male relieves her, during the labour of incubation, from ten in the morning to four or five in the evening. The little ones are born without down, covered with feathers in a few days, and quit the nest very soon, especially if they are disturbed: it is often enough only to approach them, to drive them away. They will then follow their parents, hopping from branch to branch, and they all assemble in the evening to pass the night together. The whole family perch on one branch, the male at one end, and the female at the other, and the little ones in the middle, all closely pressed against each other. After the first brood these warblers will make a second, and sometimes more, if interrupted.

The male of this species is in great request for the cage. Its song partakes something of that of the nightingale, and its modulations, though not very extended, are agreeable, flexible, and varied, and its tones sprightly and clear. To this it adds an amiability of disposition, not at all common. It is most peculiarly affectionate to the person who has the care of it, and will call him in a particular tone. At his approach, its voice grows more expressive of affection. It will dart towards him, against the wires of its cage, as if to break through this obstacle, for the purpose of joining him, and by a continual clapping of the wings, accompanied with little cries, it seems to express eagerness and recognition. Such is the picture drawn of it by Olina, and it is of this warbler that Mademoiselle Descartes has said,

"N'en déplaise à mon oncle, elle a du sentiment."

These birds are procured in various ways. The young ones taken towards the months of August and September are

generally preferred. Their song is said to have more melody, and a greater analogy with that of males in a state of freedom. To accustom them to the cage, the extremities of their wings are tied, and they receive the same aliment as the nightingale, with tender fruits, and even with apples and pears. When it is desired to bring up the young ones from the nest, they must be taken when half fledged, that is, about eight or nine days after their birth, and fed like the young nightingales. They must be kept extremely clean, on dry moss, regularly renewed twice a day. They may, moreover, receive a liquid paste, composed of yolk of egg, bruised hemp-seed, and crumbs of bread. When they can eat alone, parsley, hashed very fine, is added to this, and the whole receives a greater consistence. This diet, however, is sometimes apt to fatten them too rapidly, and thus occasion death. The hemp-seed has peculiarly this quality. This may be corrected, by giving them pears or apples, cut in two, figs, grapes, and other little fruits to which they are partial. During winter they must be kept in a warm place; it is sufficiently so if their meat and drink be not frozen. It is said that their song may be improved, by placing them within hearing of the nightingale. At the epoch of migration, in autumn, these captured warblers are very much agitated during the night, especially at the full of the moon, which causes a great number of them to perish. This torment continues until November, after which they are tranquil until the same season the following year. This desire of voyaging does not quit them till after some years of captivity.

They have been preserved in cage for ten years; but the ordinary duration of their lives is from five to six. With care they may be brought to nestle in captivity. For this purpose they should be kept in a garden, and the aviary should be provided with evergreens. During winter they must be kept in an apartment.

This warbler is common enough in Europe, both south and north, but is rather rare in this country.

The *Orphæa*, or warbler proper, is found in almost all the temperate countries of Europe, inhabits gardens, and the borders of woods, and makes a nest in the bushes, in which the female lays from five to six whitish eggs, with points and spots of a greenish grey.

The *Babbling Warbler* (*Mot. Curruca*, Lin.) does not frequent gardens, unless there are very thick woods in their proximity. It delights in coppices of three and four years old, and prefers the thicket and most solitary places, where the male, without quitting his favourite retreat, sings in a manner that has some analogy with the style of the reed wren. As there are no intervals between the burthens of the song, it is probable that the epithet attached to this warbler has been derived from this circumstance.

The babbling warbler constructs its nest in the middle of the thickest bushes it can find, places it at about three or four feet from the ground, employs many more materials, and gives the nest more depth and thickness than do the other warblers. It first of all puts stalks of coarse plants negligently at the base and sides, to which are added finer plants, interlaced with a little wool. The eggs are from four to six in number, white, glazed with a clear grey, punctated with olive and black on the middle, with spots of the former colour numerous and irregular towards the gross end.

The *Passerine Warbler* inhabits Lombardy, Sardinia, France, &c.; comes later into the latter country than other warblers. These birds sojourn in coppices, groves, orchards, and often in gardens, even in the midst of the most populous cities, provided there be there hedges of yoke-elm, with trees of a certain elevation. On this account the name of *hortensis* has been applied to it, which, however, has also been given to another warbler by Latham and Gmelin. It is called *aedonia*

by M. Vieillot, from the beauty of its song. The fowlers of Paris call it *bretonne*. It does not frequent thickets, but is fond of perching on the top of middle-sized trees. It is always lively, perpetually in motion, and sings even while in search of food. Its voice has less brilliancy of tone than that of the atricapilla, but it is equally melodious, and the burthens of its song seem to possess greater variety. Its cry, when it is disturbed, is the same, and it frequently repeats it when alarmed for its offspring.

The nest is usually exposed on the hedges above-mentioned, or on large shrubs, and is rarely found elsewhere. It is of no great consistence, loosely constructed, so that the light appears through the interstices, composed externally of the stalks of plants, and furnished with horsehair within. It is neither very large nor deep, the eggs are four in number usually, marbled with two shades of brown, on a ground of sombre and dirty white.

The Hawk-like Warbler (S. Nisoria) is found in Germany, and in Piedmont, on its passage. It frequents coppices on plains, hedges, and bosquets which surround meadows, or border on them. Its nest is usually in the thickest bushes; it is composed externally of plants and small roots, internally of horn and cattle-hair. The eggs are four, of a whitish gray, sown with irregular and confluent spots, of a reddish ash, and leaden gray. The cry of this warbler resembles the sound with which the nightingale preludes its song; it is the least agile of all the warblers; its motions are awkward and heavy, but its flight is extremely rapid. During the season of re-production, it is observed to elevate itself in a right line in the air to the height of fifteen or twenty feet, the head being raised, and the tail perpendicular; it then stops, descends slowly, clapping its wings, and flutters for a moment above the bush which it has just quitted.

The Accentor, or Alpine Warbler, made the type of a new genus, by Bechstein, was long ranged under the head

of Sylvia. It differs, however, from the birds of that genus, in habits, manners, and entire mode of life. This bird, which Buffon termed, "*fauvette des Alpes*," is called in the mountains of Upper Comminge, *pegot*. The word *pee*, in the vulgar language of the country, means imbecile; it inhabits the Pyrenees and the Alps; it ordinarily chooses the most elevated and solitary points of those arid mountains; its nest is circular, and composed of moss and grass; it fixes it in the sheltered hollow of a rock, for it seems to be afraid of the north wind, and always remains in a southern aspect; the eggs are green and five or six in number.

These birds never quit their beloved mountains; but when, in winter, tempests and hurricanes arise, then they precipitate themselves in flocks into the vallies, take refuge in the infractuosities of rocks, or retire behind the shrubs which grow in their clefts and hollows; they are either so terrified, or so dull, that they give into snares of every kind, and even serve as a sport to the children, who kill them continually with stones. Travellers frequently meet them on the summits of the mountains, either perched on the ground, two by two, or climbing along the rocks with the assistance of their wings; they are either so confident or so stupid, that the sight of man does not frighten them; they will suffer themselves to be approached very nearly.

It does not appear that these birds have been retained in a state of captivity, or even that any one has ever heard their song. M. Picot La Peyrouse, who has observed them much, never even heard them utter a cry; they are both granivorous and insectivorous, but more especially the latter. Buffon says, that they remain commonly on the ground, where they run very fast, after the manner of quails and partridges, and not hopping like the other warblers; that they also perch on stones, but rarely on trees; that they go in small troops, and have a rallying cry like that of the water-wagtail.

This species inhabits not only the Alps and Pyrenees, but

also the high mountains of Persia. It seems necessary to notice that it has been three times repeated by Gmelin and Latham, as distinct species. By the former under the names, *motacilla alpina*, *sturnus collaris*, and *sturnus mauritanus*; by the latter as *collared stare*, *Persian starling*, and *Alpine warbler*.

The Winter Warbler, or *Accentor Modularis*, is classed in this genus. This bird has been known under a variety of denominations, which it is needless to recapitulate; it seems to be remote from the warblers in its mode of life and habits, to have less gaiety and vivacity, and a song more feeble, plaintive, and monotonous. It is heard most usually, in the morning and evening; it then perches on a middle-size tree, or the top of a shrub; its song is agreeable in a season of the year, when all other birds are silent. It has also a little trembling cry.

Nature, always provident, having destined this bird to pass the winter in our northern climates, has clothed it much better than the other warblers, and given it a better furnished plumage. In autumn these birds appear in great numbers near habitations; all at this epoch, quit the woods, their summer domicile, and spread themselves in hedges and bosquets which neighbour on gardens. When the cold grows rigorous, they approach houses and particularly barns and lofts where grain is thrashed, seeking in the straw for little insects and small grains; every aliment suits them at this time, for corn has been found in their crop, though they are usually insectivorous. They may be fed with hemp-seed, which they will swallow entire, as pigeons do; but it is only necessity which makes them granivorous. As soon as the cold relaxes they remove from houses and barns, and remain in hedges and bushes, seeking the chrysalides on the branches, and the little insects which are benumbed under the moss; at the approach of the fine days they remove still farther, retire to the borders of woods, and eventually penetrate into the thickest recesses.

Such is the mode of life of these birds in the more southern provinces of France. But in the more northern, as Normandy, for instance, some of them always remain near habitations, if there be hedges of green trees, &c., where they can nestle. In the woods they prefer the thickest bushes; they are so little wild that they will make their nests in an orangery if they can enter, and will even hatch in an aviary, if it be furnished with tufted shrubs.

This is one of the earliest of the sedentary birds to announce the return of spring, and commence its amorous music. From the earliest days of March, the male and female are observed to be engaged in composing the cradle of their young. They usually place the nest at a moderate elevation, but always in a secret situation. It is formed with a considerable quantity of moss, especially at the base and sides, and it is furnished within with wool, horse-hair, and feathers, softly arranged. On this bed the female deposits four or five eggs, of a handsome clear blue, without spot; the male remains in the neighbourhood, and cheers his companion by his song, at such moments as he does not relieve her from the cares of incubation. The young are born, covered with down; and do not abandon the nest until they are well feathered. When taken from the nest, they are easily reared; and when caught in nets in their youth, are tamed without difficulty. The mother does not abandon her eggs, although they may be touched, and she shows much attachment for the young; she understands how to lead the enemy astray which seeks for their destruction. Like the partridge before a dog, she throws herself before a cat when it approaches, and hovers on the ground from place to place, until it is sufficiently remote. The cuckow, according to Latham, frequently lays in the nest of this bird.

This species is found in all parts of Europe, but more frequently in northern climates. It is easily taken in snares of every description.

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BLUE THROATED MALURUS *of Vieillot.*

MALURUS GULARIS ___ Vieil.

London Published by G.B. Whittaker March 1828.

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1

DWARF WARBLER

ACANTHIZA NANA. Vigors.

2

EXILE WARBLER.

MALURUS EXILIS.

London. Published by G.B. Whittaker, July. 1828.

The *Accentor Montanellus* of M. Temminck inhabits the eastern parts of the south of Europe, and under the same latitude in Asia. It was found by Pallas in eastern Siberia, and in the Crimea. It is rare in the Neapolitan States, Dalmatia, and the South of Hungary. It always lives in the mountains, and never shews itself in the plains except in winter. In summer it is insectivorous, and probably will eat grain in winter. Its mode of propagation is unknown.

The word *malurus* is used by Vieillot to designate as a genus some species of the warblers distinguished by a gauze-like tail. The opposite figure is of a bird which seems referable to this group. The whole upper part is dusky brown, the throat brown, the tail and streak over the eye are azure blue, the remainder of the bird is bright reddish brown; the tail feathers, only five, are spread and very thin, the middle is the longest, and the other two on each side decrease in length successively.

The figures of the Dwarf Warbler, and Exile Warbler, are from specimens in the Linnæan Society, and are described at pages 469 and 470.

The first bird in our author's division of REGULUS, is the *common Gold-crested Wren*, *Motacilla Regulus* of Lin. This, the smallest of our European birds, must not be confounded with the common wren, which belongs to the baron's division Troglodites. The latter is a little larger and more bulky, and as it seldom quits our rural habitations, is much better known than the other, which only inhabits the woods, and is seen only in autumn and winter. The gold-crested wren is so small, that it passes through the meshes of common nets, and easily escapes from all cages. A leaf is sufficient to conceal it from the most piercing sight, which may probably be the reason of its appearing more rare in summer than it really is, for at the fall of the leaf these birds are seen in tolerable numbers; and when the trees are totally defoliated, they are found in small troops of from ten to twelve, which join titmice and other little birds for the purpose of migration.

The gold-crested wrens are discoverable by a small sharp cry, which has much resemblance to that of the grasshopper. They are fond of oaks, elms, lofty pines, fir-trees, and willows. They are not at all distrustful, and may be approached and killed with great ease.

These birds live on similar food with the titmice, and are very analogous with them in their habits. Their mobility is extreme; they fly incessantly from branch to branch, climb trees, and hold themselves indifferently in all positions, and often have the feet upwards. The smallest insects constitute their ordinary nutriment; sometimes they take them on the wing, at others seek them in the clefts of the bark, or the heaps of dead leaves which remain at the end of the branches; they also eat larvæ and all kinds of small worms; it is said that they will eat the berries of evergreens; be that as it may, it is quite certain, that they are fonder of those trees than any others, probably because they find there a greater abundance of insects which constitute the basis of their aliment. They grow fat in autumn, and their flesh is then good eating; notwithstanding their smallness, Montbeillard tells us that the markets of Nuremberg abound with these little birds; many are taken in the environs of that city, and usually by the bird-call.

These wrens are seldom seen in France, but in the after season. They scarcely ever nestle in any of the French provinces; but in summer they are abundant in the woods of Germany and England. Their nest, curiously constructed, and suspended to the extremity of the little branches of pines and other trees, is tissued without with moss, wool, and spiders' webs, and furnished within with the softest down; this nest is spherical, and its aperture is at top. The female lays from six to eight eggs, about the size of peas, of a yellowish brown, without any spot, according to some naturalists, but of a pale flesh-colour, undulated with a deeper shade, according to Meyer. M. Temminck declares them to be a rose-coloured white; but Dr. Latham says they are of a

brownish white! The nest is also found sometimes suspended to the extremity of a bundle of ivy, which escapes from the branches of a tree, or from a wall; but it is always concealed in the foliage. When the female hatches, the male sings a short song, not without agreeableness; he also relieves her in the middle of the day from the cares of incubation.

This species is extended throughout all Europe, from Sweden to Italy. It is also found in Asia, as far as Bengal, and even in the United States of America, where it principally frequents the northern provinces, not advancing southwards, except in the autumnal season of the year.

M. Vieillot says that there are two races of this bird, one, which has been described, and another which he calls crested wren, with mustachios; the cry of the latter, according to this naturalist, is stronger than that of the other. It remains at the summit of the highest trees, and is seen only in couples, male and female. It is also more distrustful and approached with greater difficulty; neither is it met with precisely at the same period as the other.

The Yellow Wren Warbler (M. Trochilus, et Pouillo of Buffon) is a very small bird, spread universally throughout Europe, as far north as Sweden. It is with us a bird of passage, coming in spring and departing in autumn, proceeding doubtless towards more southern climates. It is known by various names in the different countries which it inhabits, derived either from its habits or its cry, which is nothing but the frequent repetition of the monosyllables *tuit, tuit.*

During the fine season, this bird remains in the woods, where it lives on small insects, such as gnats, &c. It fixes its nest in tufted plants or bushes. This nest is composed with much art and care. Externally it is constructed of moss, and internally furnished with horsehair and wool. It has the form of a little ball, and no other aperture than a

hole in the side, which the female takes care to close when she is obliged to quit the eggs or the young ones, to provide for her own sustenance, or any other wants. The brood consists of four or five eggs, a little larger than peas. They are white, picked out with reddish. The young ones do not quit this cradle of their infancy, until they are able to fly as well as the father and mother, and to follow them in their wandering courses.

In autumn these little families quit the woods, and extend themselves in our orchards and gardens, where they find subsistence until their departure, which now draws near. Then these birds are seen in perpetual motion, and even when they do take a moment of repose, a sort of trembling is observed in the tail.

This bird is not more bulky than the gold-crested wren, but it has a more variegated and elegant shape.

The opposite figure is from a specimen brought from Chili by Lord Byron, and presented by him to the British Museum. Mr. Gray has named it from the noble donor, *Byron's Golden Crested Wren*, to distinguish it from the European species.

The upper part of this bird is dark green; on the top of the head is a bright red streak, and over the eye is a broadish lunated yellowish white streak; the breast and belly is yellow; the quills of the tail and wings are black, and a band of that colour, broader at the sides than the middle, passes round the breast; the smaller wing coverts and the throat are white.

The *Common-Wren* is placed in the subdivision TROGLODITES, by our author, a name derived from the Greek, and signifying an inhabitant of clefts and caverns.

After the gold-crested wren, this is the smallest of our European birds, being little more than four inches long. It is known under as many different names as it inhabits different countries.

The wren lives on worms, on flies, and other small insects.

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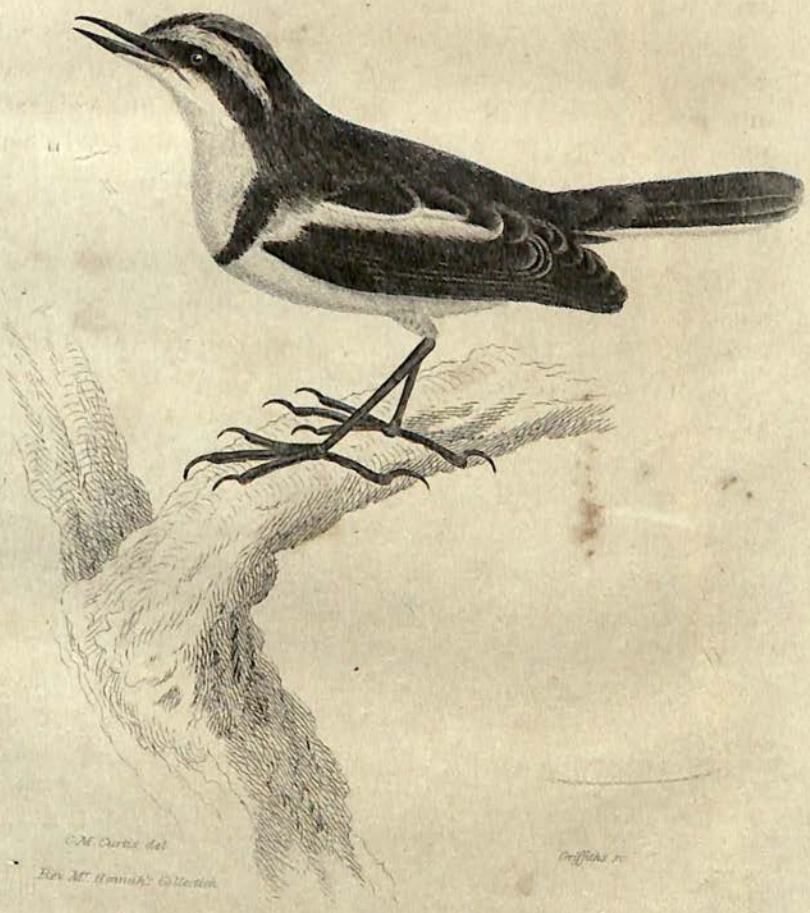

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Griffiths sc.

GOLDEN CRESTED WREN.

REGULUS BYRONENSIS.

London, Published by G.B. Whittaker, May 1828.

In the summer it remains in the woods where it constructs its nest, near the ground, sometimes on the ground, and sometimes in the shelter of some rock, to which it attaches it. This nest, of a spherical form, seems externally nothing but an unformed heap of moss, which causes it easily to escape search; but internally, it is arranged with great neatness. It has but one narrow entrance, situated on one side, and always diametrically opposite to the wind which most usually prevails in the adjacent mountains. The female lays nine or ten eggs, of a tarnished white, with a zone of reddish points towards the gross end. It is not uncommon, in spring, to find in their nests the young of mice or field-mice, who have taken possession of them.

At the approach of winter this pretty little bird quits the woods, and draws near to the habitations of men. It introduces itself into the clefts of walls, where it may be seen entering and coming out with precipitation, incessantly agitating its wings with a rapid tremulous motion, and always holding its tail in an elevated position. It accompanies these movements with a little cry constantly repeated. Its song is also soft and piping, and the more agreeable from the general rarity of feathered music during winter. The wren gives more animation to his song in proportion as there is a greater abundance of wind, and accompanies his singing with a little vibration of the tail from right to left.

The wren, as well as the red-breast, is one of the least distrustful of our birds. It is naturally very curious and inquisitive. The sight of man causes in it no fear. It suffers itself to be approached very nearly, and will flutter for some time along the hedges, at some paces in front of the traveller, which would create a belief, that it was fond of preceding him. It is true it is rarely pursued, and in many places the people scruple, not only to kill it, but even to touch its nest; for the wren, as well as the red-breast, is held in a sort of veneration by the lower classes, highly favourable to their

preservation, and "it must be a most wicked and mischievous boy," says Dr. Latham, "who will not pay some sort of deference to a very trite proverb, viz.—'The robin and the wren are God Almighty's cock and hen.'"

This species is tolerably extended throughout Europe. But the winters of the north are too rigorous for its constitution. It is seldom seen, says Linnæus, in Sweden and the North of Russia. It is, however, reported to have been found at Oonalashka; but it is more than doubtful if the species be the same.

There is a bird in North America, called the *Winter Wren*, (*T. Hyemalis*), which if not of the same species as the last, has certainly very striking analogies with it. Its plumage, conformation, song, and mode of life approximate very closely to those of our European wren. It arrives in the central parts of the United States in autumn, and remains there during the mild winter. It frequents the backs of ditches, ravines, old deracinated stumps, small bushes, and the brambles in aquatic places. It is often observed in rural habitations, where it conceals itself in piles of wood; but at the end of the bad season it returns northward. According to Wilson, this wren nestles in the mountain-forests of upper Pennsylvania; others imagine that it does so in countries still more northward, as does the ortolan, and several other birds, which are only seen in winter in the United States.

The *Brown Warbler* of our text, *House-wren* of Wilson, *Troglodytes Œdon*. Vieil., is another North American bird. Like our common wren, it seems to take great delight in approaching the habitations of man. It is sufficient to procure it the advantages which the building of its nest requires, to be certain of attracting it into a garden, and making it nestle there every year if its brood remains untouched. It merits, in all respects, the attention bestowed upon it by the Americans, for it is in no wise hurtful, living only on larvæ, chrysalides, and small insects, and is the only

singing bird which establishes itself in cities. Its song is as strong and sonorous as that of the chaffinch, but more mellow, varied, and extended. In consequence of this it is known by the name of the nightingale of North America. The Americans, who have not this bird near their dwelling, and are desirous of fixing it there, attach a calabash against the house, or at the end of a perch in the middle of their garden. Others construct, for the same purpose, a little house, attached in like manner to the end of a perch. This little nook rarely remains untenanted; for the young couples, on their return from the south, being forced to seek a district where they may be isolated from their fellows, immediately take possession of it. In default of these artificial retreats, they make their nest in the hollow of a tree. Every place which is close and obscure suits them best. Filaments of roots, cattle-hair, moss, fine plants, &c. constitute the materials which this species employs without much art, and heaps together without much order, as do most of the birds that nestle in hollow trees. Its first brood consists usually of from six to eight eggs, white, or flesh coloured, and spotted with a purple red; the second is less numerous, One takes place at the arrival of the bird in the month of May, the other in July.

This species is extended through all North America, from Canada to Louisiana.

The *Arada* has been placed at the end of the ant-eaters, by Buffon, and in our tabular view; but as it has great analogies with the wrens, we chuse to notice its habits here. In these it differs from the ant-eaters; it is solitary, perches on trees, and never descends to the earth, but for the purpose of catching ants, and other insects, of which it also eats. It differs from them still more by its song, which is peculiarly fine; whereas all the ant-eaters utter nothing but cries or sounds, totally destitute of all modulation.

The traveller, who wanders through the immense and

solitary forests which cover almost the entire soil of Guiana, is at first struck with the gloomy silence which prevails in the depths of these sombre retreats, which are nevertheless peopled by a crowd of animals of every class, and every genus. The more he penetrates into their interior, the more general this silence becomes; animated nature appears mute, or, if the monotonous uniformity should be interrupted by any sound echoing from afar, the impression produced on the senses and the mind is disagreeable and painful. Sometimes the ear is struck by the horrible howlings of the alouatta; sometimes by the alarum of the chiming thrush; sometimes by the sudden stroke given with the tail by the great adder; and sometimes by the startling and reiterated crash of many falling trees, which, tumbling one over the other, break in rapid succession, causing an instantaneous clearance in the midst of the most magnificent plantations of nature. One sound, however, more singular than the others, will occasionally arrest the attention of the wanderer through these mighty woods. Removed to the distance of many leagues from every human habitation, his ear will be suddenly saluted by a whistle like that of a bandit calling to his brothers of spoil. This whistle will be repeated, and the traveller will believe that he is approaching one of those wild settlements, which the desire of liberty or the tyranny of the colonist has forced the fugitive negro to form in the depth of almost impenetrable forests, or in the distant solitude of nearly inaccessible mountains. Advancing towards the point from which the sounds appear to issue, he will find them to recede; but should he approach unperceived within sufficient distance he will discover, to his astonishment, that this whistling is not produced by a man, but by a bird, though nothing can be more perfect than the resemblance. Neither will he be long in perceiving that the same bird has a most melodious song, and that the whistler is also a most agreeable musician. Its song is less varied and less brilliant

than that of the nightingale, but more grave, touching, and tender, and more resembling the mellow sounds of a soft-toned flute. It is modulated on different keys and accents, to which the seven notes of the octave, which the bird delights to repeat, serve, in some sort, as a prelude. In those warm climates, where the young broods take place several times in the year, the song, which is only the expression of love, lasts longer than in cold or temperate regions. This constitutes a very decided advantage in favour of the *arada* over the nightingale. From its song, the name of *musician-thrush* has been given to the *arada;* but it certainly does not belong to the thrushes: and as the epithet musician has been applied to other birds of different genera, the native name of *arada* was preferred by Buffon. The species is rare, and avoids the neighbourhood of inhabited places.

The *Buenos Ayres Wren* (*Sylvia Platensis*) has great analogy with the Œdon, already described; it is known by the Guaranis under the name of *Basacaraguay*. But at Buenos Ayres, they called it a mouse, from its cry, and its habit of gliding, especially in winter, under roofs and into the crevices of walls, and holes of trees, and of entering sometimes into houses, to catch spiders and other small insects. This bird never frequents the plains or forests; it remains in thickets, on the edge of woods, in enclosures and rural habitations. It hops lightly along the ground, holding the tail almost always erect, and appearing by no means frightened at the approach of men. The male sings all the year, and in the season of love accompanies its song with a clapping of the wings; the female replies to the male, by a single cry, thus, *chi*, low and tender. The voice of the male is always elevated, clear, and agreeable; its song consists of eight or ten syllables, pronounced quickly, and repeated at intervals, and often for a long time together; its rhythm is not unlike that of the nightingale, but its phrases are neither so varied nor so expressive.

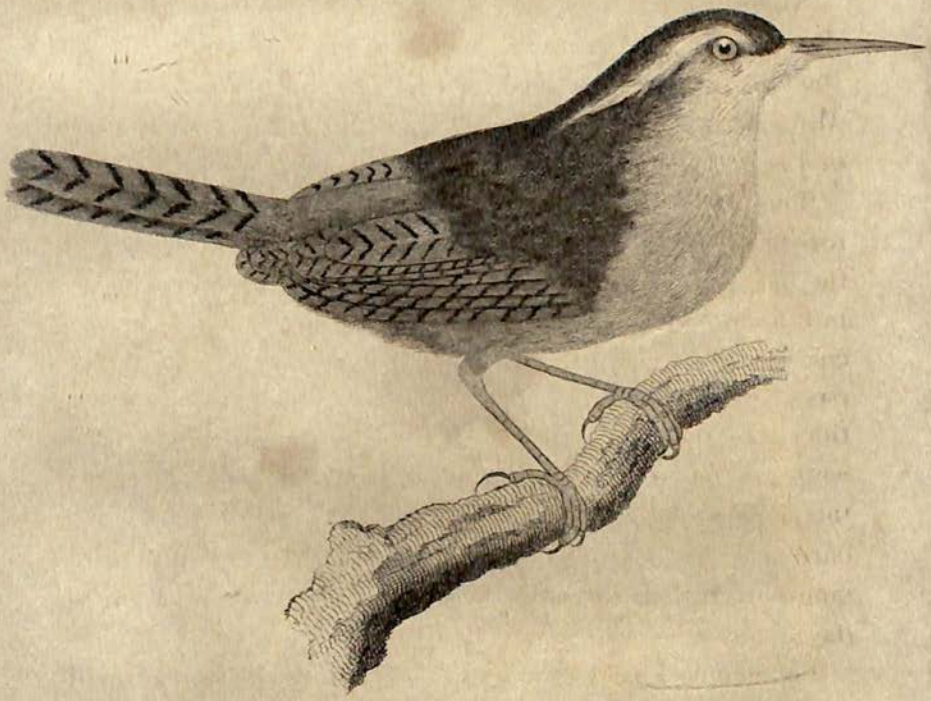
It nestles in holes of walls, but in inhabited places, which it constantly frequents. It places its nest on the beams of the scaffolding of houses, and, more usually, in the apertures which they leave in the walls. M. Azara discovered a nest of one of these birds on the ground, in the cranium of a dead cow, and another under a roof. It is composed of feathers, and blades of straw, and furnished internally with abundance of horsehair. The eggs are four, red at the gross end, and speckled in the remainder, with the same colour, on a white ground.

We insert a figure of a wren from a specimen in the Langsdorf Collection, drawn by Major Hamilton Smith, which though it appears to have some affinity to the Great Carolina Wren of the American Ornithology, the Barred-tailed Wren of Latham, may nevertheless be distinct.

The bill is very long, and nearly straight and slight; the top of the head, neck, small wing coverts, and upper half of the back, are of a dirty brown colour; the larger wing coverts tail, and lower part of the back, reddish brown, or brick-dust colour; the forehead and vent are ashy, but a white streak passes from the anterior corner of the eye over it, and is continued to the bottom of the side of the neck; the throat is white, the breast is light yellow, and the belly reddish brown; the large wing coverts and tail feathers have several black bars passing on each side from the shaft, not quite rectangular in their direction, but inclining towards the tip of the feathers.

The genus Thryothorus of Vieillot, consists of a small group of species which inhabit only North and South America. There is so great an analogy between them, that description is scarcely sufficient for the purposes of accurate distinction. The differences, however, which characterize them are easily observable in nature.

The Great Carolina Wren (*Thryothorus Littoralis*, Vieill.) is found constantly in the mouth of May on the banks of the



Hon.ble Geo. Smith. Esq.r del.t
Lang.dorff. Cal.

THE LONG-BEAKED WARBLER.

TROGLODYTES LONGIROSTRIS.

London. Published by G.B. Whittaker. March 1828.

Delaware. Yet it is seen rarely in Pennsylvania, and still more rarely in the state of New York. It is very frequently met with on the banks of James river. It seems to delight in the obscurity of the cypresses that border the marshes, in profound caverns, and in piles of timber fallen together from age, in the neighbourhood of rivers, and small streams. It has all the habits of our wren. It conceals itself in holes, in crevices of the earth, and is perpetually in motion. It appears and disappears every moment. Its cry, which it utters from time to time, is loud and strong, not unlike a burst of laughter, and seems to express, according to Wilson, the word *chirr-up*, the first syllable being lengthened and strongly dwelt on. It has another song, but much more soft and musical. It sounds something like our English words, *sweet William, sweet William.*

The Marsh Wren of Wilson, is another bird of this division (*Certhia Palustris*). It inhabits marshy places; sojourns in reeds, and prefers those whose roots are bathed by water. It is continually jumping over their stalks, like the *reed*-wren, already described, with which it has additional relation from its song and continual babble. It has not been observed to fix on trees or shrubs. It even seems to avoid fixing on the brambles or bushes which are on the edges or in the centre of its usual haunts. Its song, if indeed such a name can be given to an assemblage of various cries, repeated twenty times in succession, without interruption, and in the same key, is as hoarse and disagreeable as the croaking of the frogs which are its habitual companions, and as troublesome, from its long duration. The slight cracking, says Wilson, made by globules of air forcing their way through a marshy soil, as you walk along, may give you a tolerable notion of this delightful warble. Many couples of this species are found in the same district, and the males seem to take pleasure, like the frogs, in vying with each other in uttering the loudest cries. This work continues, during hatching time, from dawn until mid-

day, recommences some time before the setting of the sun, and continues one or two hours after.

This bird is very common in the marshes near the city of New York. It visits them in the month of May, and quits them on the approach of autumn. As if in compensation for its disagreeable song, nature has endowed this bird with a rare industry, in making a shelter for its young, against every inclemency of the atmosphere. It attaches its nest to several stalks of reeds, and always above the highest waters. The attachments are so solid, that the most violent winds cannot remove them. The form of the nest is that of an elongated melon. Stalks of plants, small roots, and dried leaves, are at its exterior. All these materials are intermingled with mud, forming a sort of wall, which the water cannot penetrate, when it is dried by the sun. The inside of this cradle is furnished with feathers, cattle-hair, and other softer materials. The entry is on one side towards the middle, and is surmounted by a little roof, which advancing a little over it, prevents the rain from coming in. The eggs are five or six in number, very small, and of a deep pewter-colour.

M. Vieillot has enumerated some other species under the genus Throythorus, which other naturalists, with greater propriety, have placed under different divisions of the dentirostral family.

We now come to the division of the WAGTAILS.

Linnæus comprised, under the denomination of *Motacilla*, a great number of birds with slender beaks, which have subsequently been divided into many genera. Bechstein has restrained the name to the wagtails proper, and budytes, which have more elevated limbs, and a longer tail than the rest, which they are continually lowering and raising. To such the name is more suitable than to any of the others. These birds have, moreover, as distinctive marks, certain scapulary feathers, which, extending to the end of the wing, give them some relation with the majority of the grallæ, and a tail

composed of twelve rectrices nearly equal, with the two lateral, however, shorter than the eight intermediate quills.

M. Cuvier has separated the wagtails proper from the budytes, a name derived from these latter birds being frequently seen amongst cattle. There is, however, very great analogy between the two sections. Perhaps our popular name of wagtail is the best to apply to both.

The majority of the wagtails proper, and all the yellow wagtails (*Bergeronnette de Printemps*), migrate from our northern countries at the approach of winter. The *boarula*, on the contrary, comes to pass the winter with us, and quits us when the others return. It is said to nestle in the German districts, which border on the French territories.

All these birds frequent meadows, and humid and marshy places, delighting in the borders of rivulets and rivers. Most of them have an undulating flight. They all run rather than walk; seldom perch, sing, or cry, during their flight; and construct their nest on the ground. That of the white wagtail is, however, sometimes found in a pile of wood, along side of the banks, or in the hole of some wall whose base is washed by waters. Insects and small worms are their only aliment.

The *White Wagtails* (*M. Alba*) have a mode of life peculiar to themselves, and habits which distinguish them from budytes. They more readily approach man and his habitations, being fond of nestling in our neighbourhood. The others, more wild, inhabit the vicinity of the meadows and isolated herbaceous tracts. The former prefer stagnant waters, and the latter delight more in the borders of springs and running streams. Both run with the cattle, fly about the labourer, accompany him in his rural labours, and follow the plough in pursuit of small worms and larvæ, of which the newly turned furrows present a vast abundance. These insectivora, as useful as the fly-catchers and swallows, sometimes in the flight, but more frequently on the ground, amidst the herbage, seize upon the flies and gnats which have escaped the

murderous bills of their other pursuers in the air. All the insect population of ponds and marshes constitute the nutriment of these volatiles. Their slight forms, little head, delicate feet, and long tail, perpetually balanced, cause them to be at once distinguished from all other birds with slender bills. They are therefore with great propriety formed into a small distinct family.

The *Motacilla Alba* is spread throughout Europe. It is even seen in Siberia, Kamschatka, Iceland, and the Ferœ islands. It also inhabits Africa and India.

They form in autumn numerous flocks, which extend themselves through the fields, and withdraw, on the approach of evening, into osieries and willows which border canals and rivers. There they perform a noisy concert until night-fall. They depart in October, and often at this period they are heard passing in the air, sometimes at a very considerable height, and clamouring to each other incessantly. They do not, however, all migrate at this season, for some, though a very few, are occasionally to be met with. They then abound in Egypt, where the people, says Maillet, dry them in the sand, to preserve them for the purpose of food. They are also to be seen in Senegal at the same season; but, like the swallows and quails, they disappear from thence in spring to return to our climates, where they arrive at the end of March.

These birds possess the most astonishing gaiety and lightness. They appear in flying to rest upon their long outspread tail, as upon a broad oar which assists them to balance, spring, and perform a variety of evolutions in the air. During such sports, they are frequently heard to utter a little cry, lively, clear, and redoubled, which sounds like the syllables *guit, guit, guit, guit, guit.* They have also a soft and delicate song, which, in autumn, is reduced nearly to a murmur. "Encore," says Belon, in his old French, "savent *rossignoller* du gosier melodieusement, chose qu'on peut souvente fois ouïr sur le commencement de l'hiver." The motion of their tail in

flying is horizontal, but on the ground its position is perpendicular. As they delight in being upon the edge of the water, and often approach the washerwomen that are there, and seem to imitate with their tails the beating of the linen, the French have given them the name of *lavandières*. They run lightly, with very nimble steps, upon the strand, and their long legs enable them even at times to enter the water to a small depth; but they are usually seen placed upon the stones and other little elevations about it.

The wagtail fixes its nest on the ground, under some roots, or below the turf; more frequently at the edge of waters, under some hollow bank, in elevated piles of wood alongside of rivers, and sometimes in heaps of stones. It is composed of dried herbs, small roots, and moss, connected carelessly together, and it is furnished inside with horse-hair, and feathers in abundance. The eggs are from four to six in number, of a bluish white, spotted with brown. There are usually two broods in the year. The male relieves the female during some hours in the day from the labour of incubation. The little ones are born covered with down. The father and mother defend them with much courage when they are approached. They meet the enemy, fly about to lead him to a distance, and often succeed in deceiving him by their manœuvres. If their young family is carried off, they fly about the head of the ravisher, turn incessantly, and continually utter piercing cries. It has been remarked that they attend very scrupulously to their young, keeping the nest extremely neat, and cleansing it carefully from all kinds of filth and ordure. They fling these out, and even carry them to a certain distance. This last precaution seems to be the result of a different instinct from that of mere cleanliness. It would seem to be done rather with the view of removing every indication of the proximity of their nest. Many other birds use a similar precaution, especially during the first ten or twelve days after the birth of the young. They even carry off the egg-

shells when the young are evolved, and take them to a considerable distance. This habit is so innate in birds, that even canaries, which, in a long lapse of captivity, one would imagine, would leave it off, take the shell, the moment the little one comes out, and either transport it to the dung which is in that part of their cage the farthest from the nest, and conceal it there, or else break it to pieces and swallow it.

When the young family is in a state to fly, the parents still conduct and feed it, for three weeks or a month. This is a period in which they wage incessant war with the insect tribe, seizing and devouring them with the most extraordinary quickness, without appearing even to give themselves time to swallow them. They collect the little worms on the ground, gorge themselves with the eggs of ants, and often make turns in the air, to catch the flies and gnats.

The wagtails are not distrustful, and are less fearful of man than of the birds of prey. They are not even much frightened by fire-arms, for, on being aimed at, they do not fly far, and frequently return and place themselves within a short distance of the fowler. They give into all kinds of snares which are laid for them, quite easily; but if taken when adult, they cannot be preserved in cages, but will die in four-and-twenty hours. For this purpose, they must be taken from the nest, and reared like the nightingales.

The *Motacilla Flava* is, of migrating birds, one of the earliest which re-appear in spring, and one of the latest which depart in autumn. In the southern provinces of France, many remain during the winter. In autumn, they assemble in numerous troops. They more willingly frequent elevated and cultivated soils, where they seek a more abundant nutriment, and find it more readily in the track of herds and flocks, with which they love to associate. From this last circumstance, these birds are called, in French, *bergeronnettes*, to which, from their early appearance in spring, the epithet *de printemps* is added. In autumn, their flesh acquires a delicacy

which causes them to be objects of research; but it is far inferior to that of the becafico.

These birds, which do not avoid man, but rather seem to take a pleasure in his society, cannot, nevertheless, support a state of slavery. They die as soon as they are shut up, but in a large enclosure, they will soon familiarize themselves, and afford some amusement by their activity and dexterity, in seizing flies and other insects. They will not live in a state of captivity, even when taken from the nest, more than three or four years.

This species is spread through Europe. They fix their nests in meadows, and sometimes at the edge of the water under the root of a tree. It is composed of dry herbs and moss without, feathers in abundance; horse-hair and wool inside. Six or eight rounded eggs compose the brood, of a dirty white, shaded with green olive, clear brown, and flesh-colour. The male partakes with the female the construction of the nest, and the hatching of the young.

The *Pipits*, or *Field Larks*, have been separated from the larks by M. M. Bechstein and Meyer, and formed into a peculiar genus, under the name of ANTHUS. Their habits have much analogy with those of the larks proper, though they differ in certain details of conformation. Like the larks, they sing in flying, and elevate themselves to a certain height in the air. They seek their nutriment, nestle, and sleep on the ground. Some frequent cultivated fields and meadows; others delight, during the summer season, in the borders of woods, in glades, in furze, and brushwood, thinly scattered; many prefer mountains, steep shores, rocks, and maritime pastures. Some few, in fine, inhabit, during summer; the little hills in sandy and stony situations, and during the after season, sojourn on the banks of rivers, and seek their food upon the strand. A very small number have the power of perching constantly upon trees. There is considerable trouble in distinguishing them specifically.

The *Anthus Sepiarius*, called by M. Vieillot, *pipi des buissons*, (bush pipit) is the smallest of the genus. The male sings when flying, and uses much action. He erects himself, half opens the bill, spreads the wings, and every thing announces that his is a song of love. The song is simple, but soft, harmonious, and clear. Both the male and female send forth a cry when flying, and when disturbed, which very well expresses the syllables, *pi*, *pi*, *pi*, *pi*, repeated three or four times successively. From this, this bird, and the entire genus, derive their name, which, in French, is *pipi*, in English, *pipit*, in German, *piep*, and in Danish, *pibe*.

There is nothing more in the detail of the habits of the other species, sufficiently interesting or sufficiently known, to detain us any longer upon them.

We shall now resume so much of the text of Cuvier, as relates to the Fissirostral Family of the passerine order of birds, and shall, as heretofore, insert therein such additional species as have been named, without pledging ourselves, and much less the Baron, for the propriety of treating them respectively as distinct.

The field larks would conduct us directly to the larks; but we are obliged first to speak of a small family allied to this by the fly-catchers. It is that of

The Fissirostres,

A family not numerous, but very distinct from all others, by the short broad beak, flatted horizontally, slightly crooked, without indention, and very deeply cleft, so that the opening of their mouth is very wide, and they easily swallow the insects which they pursue upon the wing.

They are most closely allied to the tribe of the fly-catchers, especially to the procnias, whose bill scarcely differs from theirs except in its indention.

Their regimen, exclusively insectivorous, eminently constitutes them migrating birds which quit us in the winter.

These birds are divided into diurnal and nocturnal, like the birds of prey.

The Swallows. Hirundo. *Lin.*

Comprehend the diurnal species, all remarkable for their close plumage, the extreme length of their wings, and the rapidity of their flight.

Among them, we distinguish

The Martens. Apus. Cuv. Cypselus. Ill.

Of all birds, those which have the longest wings in

proportion, and which fly with the greatest rapidity. Their tail is forked; their feet, very short, have this very peculiar character, that the thumb is directed forward almost like the other toes, and that the middle and external toes have each but three phalanges like the internal.

The shortness of their humerus, the breadth of its apophyses, their oval furca, their sternum without indention towards the bottom, indicate, even in the skeleton, to what a degree these birds are organized for a vigorous flight; but the shortness of their feet, joined to the length of their wings, prevents them when they are on the ground from taking their spring. Accordingly, they pass, so to say, their entire lives in the air, pursuing, in flocks, and with vociferous cries, the insects in the highest regions. They nestle in the holes of walls and rocks, and climb with rapidity along the smoothest surfaces.

The common species, *Hirundo Apus*: L. En. 542. 1;

is black, with a white throat.

The species of the high mountains. *Hirundo Melba*. L. Edw. 27. Vail. Afric. 243.

is the largest; brown above, white beneath, with a brown collar under the neck.

This is the *Swift* of Latham. The *Micropus Murarius* and *Brachypus Murarius* of Meyer, and the *Cypselus Murarius* of Temminck.

The white bellied Swift of Latham. The greatest Martin. Edw. F. 27. The *Hir. scopol. Micropus Alpinus* of Meyer, and *Cyp. Alpinus* of Tem. forms the variety *C. Alpinus Africanus* of Vail. O. A. 243.

Chinese Swift, Hirundo Sinensis. Gm.

Brown; beneath, greyish red; crown red; throat and orbits white. China.

H. Leucothea. Vaill. Ap. 244. 1.

Black; sides of rump white. Cape of Good Hope.

H. Velox. Vaill. Afr. 244. 2.

Blue black, beneath white; tail forked. South Africa.

Cypselus mystaceus. Less. et Garn. Zool. de la Coquille. F. 22.

Head, tail, and back, blue black; whiskers, above and below the eye, white; neck, chest, back, and abdomen, brownish slate; wing and tail coverts white. New Guinea.

Cyp. comatus. Tem. Pl. col. 268.

Green bronze; wings and tail blue, cheeks ochraceous red, with two white whiskers above and below the eye; crest of long feathers. Sumatra.

Cyp. longipennis. Tem. Pl. col. 83. f. 1. *Hir. Klecho.* Horsf.

Green black; beneath, ash coloured. Java.

The above species are admitted by the Baron. The following have been named.

Cyp. gutturalis. Vaill. Ap. 243. f. 1.

Brown; throat white; lower tail coverts white edged; feet and toes feathered. South Africa.

Cyp. Caffer. Licht.

Sooty; forehead and eyebrows white; back and belly black; throat white. Africa.

Cyp. parvus. Licht.

Mouse coloured; throat whitish. Tail forked; outer tail feather very long. Nubia.

Balasian Swift. Lath. *Cyp. Balasiensis.*

Dull brown, with the outer toe versatile. India.

THE SWALLOWS PROPER. HIRUNDO. CUV.

Have the toes of the feet and the sternum arranged like the majority of the passeres.

Some have the feet clothed with feathers even to the claws; their thumb too shows a slight disposition to turn forwards. Their tail is forked, and of moderate size.

The Window Swallow. Hirundo urbica. Lin. Enl. 542. 2.

Black above, white beneath, and on the crupper. Every one is acquainted with the solid nests which they construct of clay in the angles of windows, under the ledges of roofs, &c.

White coloured Swift. Hir. Cayenensis. Gm. Pl. Eul. 752.

Blackish violet; head black; eye-band and thighs white. Cayenne.

Hir. Ludoviciana. Cuv. Pl. Enl. 725. Catesby I. F. 57. *H. Cayanensis,* var. Vieil. *H. Cinerea.* B. Lash.

Grayish black. Louisiana.

Crag or Rock Swallow. Hir. rupestris. H. Montana. Gin. Stor. Deg. IV. 409, young Vail. O. A. 246.

Pale brown; beneath whitish, quills and tail blackish; under edge of tail feathers with an oval white spot.

Others have the toes naked, the tail forked, and the bifurcations often very long.

The Chimney Swallow. Hirundo rustica. Lin. En. 543. 1.

Black above; forehead, eyebrows and throat red; The rest beneath white. Its name is derived from the habitation it usually selects.

The *H. Smithii* of Leach, *H. corhinca,* is like it but smaller.

The River Swallow. Hirundo riparia. L. Enl. 543. 2.

Brown above, and on the chest; the throat and beneath white. It lays its eggs in holes by the water-side. It appears well authenticated that it falls into a lethargic state during the winter, and even that it passes that state at the bottom of marshy waters.

The type of the genus *cotyle* of Borè. Also found in America. Wilson, Orn. v. p. 38. fa. Vaillant, O. A. t. 246. f. 2., is also a variety according to Temmink.

Among the foreign swallows should be remarked

The Salangane. Hir. esculenta. Lin.

A very small species, of the Indian Archipelago, with a forked tail, brown above, and at the end of the tail and beneath, whitish. Celebrated for its nests, of a whitish gelatinous substance, disposed in layers, which it makes with a peculiar species of fucus, which it macerates and bruises for the purpose. The restorative virtues attributed to these nests have made them an important article of commerce in China. They are prepared for eating like mushrooms.

According to Dr. Horsfield, the tips of the tail are sometimes black.

The *Hir. fuciphaga* of the *Act. Holm.* seems allied to this.

Barn Swallow. Hir. rufa. Gm. *H. Americana.* Wilson. Pl. Enl. 724. Wilson, V. 38.

Above, and band on breast, steel blue; forehead, and beneath, rufous; tail forked, with a white spot on side of feathers; outer tail feathers long and narrow. North America.

Fulvous, or Cliff Swallow. Hir fulva. Vieil. Bonap. A. O. 7.

Blue black; beneath, brownish white; throat, front, and rump ferruginous; tail even. America.

The black-bellied Swallow, Hir. melanogaster of Swainson, seems allied to this.

White-bellied Swallow. Hir. fasciata. Gin. Pl. Eul. 724.

Black; abdominal band and femoral spot white. Cayenne.

Hir. violacea. Pl. Enl. 722. *H. purpurea.* Wilson, v. 39.

Glossy purple, with a copper, or blue reflection.

Chalybeate Swallow. Hir. chalybea. Gm. Pl. Enl. 545.

Steel black; beneath, brownish gray.

Senegal Swallow. Hir. Senegalensis. Lin. Pl. Enl. 301.

Shining bluish black; beneath, and rump red, quills and tail black. Senegal.

Hir. Capensis. Gm. Pl. Enl. 723.

Bluish black; beneath, yellowish black, streaked; crown red, side tail feathers with a white spot. South Africa.

Rufous-headed Swallow. Hir. Indica. Gm. Latham. Syn. 56.

Brown; crown red; body beneath whitish. India.

Panayan Swallow. Hir. Panayensis. Gm. Sonnerat. Voy. 76.

Silky black; beneath, white; forehead and throat, yellow ferruginous; throat, margined by a black collar. Phillipine Islands.

Hir. subis. Lin. Edw. 120

This species, according to Lichtenstein, is a variety of *H. purpurea.*

Ambergris Swallow. Hir. ambrosiaca. Gm. Briss. ii. 45.

Gray brown, beneath paler; tail much furcated.

Brazilian Swallow. Hir. tapera. Lin. *Hir. Americana.* Briss. ii. 45.—3.

Brown, beneath grayish; belly white; tail slightly forked. Brazil.

Black Swallow. Hir. nigra. Gm. Briss. ii. 46. f. 3.

Black; wings very long. Cayenne. Sometimes found with a white frontal band.

Daurian Swallow. Hir. Daurica. Lin. *Hir. Alpestris.* Pall.

Blue; beneath white; temples and rump ferruginous; outer tail feathers very long, with a white spot on the inner edge. Siberia.

Hir. rufifrons. Vieil. Vail. O. A. 245.

Bluish black, belly white, forehead red, bill and feet black. South Africa.

Hir. paludicola. Vieil. Vail. A. O. 246. 2.

Ash brown; beneath paler; tail short. South Africa.

Hir. cristata. Vieil. Vail. O. A. 247.—1.

Pale gray, beneath ashy white; crested. South Africa.

Hir. fuscata. Pl. Col. 161.

Brown, beneath white; head, neck and breast rufous; tail very slightly forked. Brazil.

Hir. jugularis. Pr. Max. Pl. Col. 161.

Red brown; throat rufous; breast and sides ashy yellow. Brazil.

Hir. melanoleuca. Pr. Max. Pl. Col. 209.

Lustrous black above; throat, belly and abdomen very pure white. Length five inches. Brazil.

Hir. Minuta. Pr. Max. Pl. Col. 209.

Fine blue above, beneath white; wings and tail black, the former slightly forked, and shorter than the tail. Brazil.

Green, blue or *white-bellied Swallow. Hir. bicolor.* Vieil. *Hir. viridis.* Wil. A. O. V. 38.

Dark greenish; beneath blue; tarsi naked, white. North America.

The following species, not noticed in the "Règne Animal," have been named.

Hir. domestica. Vieil. Azara. n. 300.

Shining blue; throat and crop whitish, varied with brown; chest and belly white; tail forked. Paraguay.

Hir. Cyanoleuca. Vieil. *Hir. melampiga.* Lich. Azara. 303.

Above steel colour; wings, and tail, which is forked, sooty above, white beneath. Paraguay.

H. Pyrrhonota. Vieil. not. Lath. Azara. n. 305.

Crown blue; forehead, reddish brown; cheeks and throat reddish; back blue, edged with whitish; rump brown. Paraguay.

Ooonalaschka Swallow. Lath. *H. Ooonalaschikensis.* Lath.

Blackish; beneath ash; rump whitish. Ooonalaschka; length, 4½ inches.

Peruvian Swallow. H. Peruviana. Brisson.

Black; beneath white; abdominal band ash; wings and tail pale grey.

Otaheitan Swallow. H. Tahitica. Gm. Lath. Syn. iv. title page.

Blackish brown, with bluish reflection above the forehead; neck and beneath purplish; tail, slightly forked, black. Otaheite; length, 5 inches.

H. nigricans. Vieil.

Blackish brown; beneath pale white; throat and crop brown streaked; tail slightly forked. Australasia.

Hir. thalassinus. Swainson.

Above changeable green, with lilac reflection; beneath snowy white; wings and tail violet brown; tail slightly forked.

* *Tail even; two outer feathers very long, and half filiform.*

Wire-tailed Swallow. Lath. *H. filifera.*

Bluish; beneath white; wing and tail black; tail with a white subterminal spot; brown nape; upper part of neck rufous. India.—British Museum.

Hirundo ruficeps. Licht.

Crown and forehead chesnut; upper part of body and eye-streak steel black; beneath white; chest-band fer-

rugineous; tail notched shorter than the wings; two outer tail feathers of male very long. Nubia.

** *Two middle tail feathers different from the rest.*

H. Albicollis. Vieil. *cypselus collaris.* Pr. Mag. Pl. Col. p. 195.

Black; neck above and chest white. Brazils. A *chætura* of Stephens.

Hir. Rutila. Vieil.

Blackish; forehead, cheeks, throat, and neck red; two middle tail feathers sharp tipped, rest rounded.

Foreign countries have some swallows with a tail almost square, and others, whose square and short tail has its quills terminating in a point.

St. Domingo Swallow. H. Dominicensis. Briss. *H. albiventer.* Vieil. Pl. Enl. 545.

Steel-black; belly white; tail blackish.

Brown-collared Swallow. H. torquata. Gm. Pl. Enl. 723.

Brown; beneath white; pectoral band and thighs brown. South Africa.

White-winged Swallow. H. leucoptera. Gm. Pl. Enl. 546.

Shining bluish; ash beneath; rump and wings varied with white. Cayenne.

Gray-rumped Swallow. H. Fancica. Enl. 544.

Blackish with white rump. India.

Wheat Swallow. *H. Borbonica.* Gm. *H. virescens,* Vieil.

Blackish brown; beneath gray, spotted with brown. Isle of France.

Rufous-rumped Swallow. *Hir. Americana.* Gm.

Blackish brown; with a shining green tint; beneath white; rump and vent red. South America.

Hir. fulva. Vieil. Bonap. Am. Ornith. F. 7
H. lunifrons. Sav.

Blue-black; beneath brownish; throat white; forehead and rump ferrugineous. North America.

Also have been named

H. rupicollis. Vieil.

Body above and chest grey brown; throat red; belly yellowish red. Brazil.

H. Javanica. Lath. Sparmann Mus. 100. Pl. col. 83.

Blackish shining blue; beneath ash; forehead, throat, and crop, ferrugineous; side-tail feathers spotted white at tip. India and New Holland.

H. Cyanoptyrha. Vieil.

Head and body, above, blue; forehead, and beneath throat red; quills and tail brown. South America.

H. pyrrhonota, *H. Americana.* B. Lath.

Blackish brown; beneath whitish; rump and vent red. India.

H. Hortensis. Lich. *H. flavigastra,* Vieil. Azara, 306.

Body above blackish brown; throat and crop red; chest and belly yellowish white. Paraguay.

Red-headed Swallow. Lath. *Hir. Erythrocephala.* Gm.

Blackish above; white beneath; head red; wings and tail brown. India.

Ash-bellied Swallow. Lath. *H. cinerea.* Gm.

Shining black; beneath, ash; tail edged with yellowish gray. Peru and Otaheite.

H. leucorhœa. Vieil.

Blue, with violet tint over the eyes and body; beneath, white; quills and tail, black. Paraguay.

H. fusca. Vieil. Azara. 301.

Brown; throat and belly white, with a brown and white band on chest; quills and tail brown. Paraguay.

Others have square, short tails, and the tail feathers ending in a point.

Temminck has referred these sharp-tailed swallows to the Cypseli, or Swifts. And Mr. Stephens separates them generically under the name of *Chætura.*

Sharp-tailed Swallow. Lath. *H. acuta.* Gm. *H. martinicana.* Briss. Pl. Enl. 544. *Chætura martinica.* Stephens.

Black; beneath, brown; throat grey. Martinique.

Aculeated Swallow. Lath. *H. Pelasgia.* Lin. Pl. Enl. 726. Catesby's Carolina, 8.

Brown; throat whitish.

Cypselus giganteus. Pl. Col. 364.

Body black; neck brown; tail and wing-coverts and side of belly, bottle-green; back and scapulars, dull ash; sides of belly and vent, white; tarsi naked.

H. albicollis. Vieil. *Cypselus collaris.* Pr. Max. col. 195.

Sooty black in general; deeper on the body than wings or head; a white collar. Brazil.

H. caudacuta. Lath. *Chætura australis.* Step.

Dusky, tinged with shining green; forehead and throat white. New Holland.

H. Pacifica. Lath.

Dull brown; throat and rump whitish. New South Wales.

H. Oxyura. Vieil.

Throat whitish, tail coverts blackish, varied with reddish brown. South America.

Chætura Sabini. Gray. MSS.

Bluish black; belly and rump white. Africa. Capt. Sabine.

THE GOATSUCKERS. CAPRIMULGUS. Linn.

Have the same light soft plumage, and shaded with gray and brown, which characterizes the nocturnal birds. Their eyes are large; their beak is still more

cleft than that of the swallows, furnished with strong mustachios, and capable of engulphing the largest insects, which it retains by means of a glutinous saliva. On the base are the nostrils, in the form of small tubes; their wings are long, the tail squared, the feet short, with feathered tarsi, and toes united at the base by a short membrane; the thumb itself is thus united to the external toe, and can be directed forward; the claw of the middle toe is often indented at its internal edge, and the external toe has but four phalanges, a conformation rare among the birds. These birds live in an isolated manner; fly only during twilight or on fine nights, pursuing the phalenæ, and other nocturnal insects. They nestle on the ground inartificially, and lay a small number of eggs. The air, which is engulphed in their large bill, as they fly along, produces a peculiar humming sound.

We have but one species of them in Europe.

Caprimulgus Europeus. L. Enl. 195.

As large as a thrush; of a gray brown, undulated and spotted with a blackish brown; a whitish band proceeding from the bill to the nape. It nestles in the furze, and lays only two eggs.

America produces many of these birds, with a round or square tail, one which is as large as an owl. *Caprim. grandis.* Enl. 325. and another, *C. vociferus*, Wils. v. 41, celebrated by the loud noise which it makes during spring.

Another European species has been discovered.

Cap. Rufitorquis. Vieil.

Above gray and black-banded, and black and gray streaked; beneath yellowish black, cross lined; throat white; collar reddish; three primaries internally white spotted; two outer tail-feathers white tipped; Marseilles. M. Baillon.

The species of this genus are much involved in obscurity.

Some have the tail rounded or wedge-shaped, and the middle claw serrated.

C. Egyptius. Licht. *C. Isabellanus.* Temm. Pl. Col. 379.

Tail equal; a little longer than the wings; Isabella very finely marbled with thin ziz-zag lines; outer quill well banded with black; inner spotted with white; half collar white. Egypt.

Caprimulgus Nubicus. Licht.

Tail equal, a little longer than the wings; pale ash; crown, back, and coverts striated with black, and spotted with Isabella; gula-band white; chest and belly, black waved. Length, eight inches. Nubia.

Caprimulgus Icteropus. Vieil.

Blackish gray, varied with ferrugineous and white; beneath reddish white; crown banded; wings blackish and yellowish, transversely streaked. China.

Cap. Cyanus. Lath. *Cap. Cayennensis.* Gm. *C. Leucurus.* Vieil. Pl. Enl. t. 760.

Red and gray, variegated, and lined with black; throat and wing-band white; temples red, with five black streaks; side-tail feather white edged; tail equal. South America.

Cap. Griseus. Gm.

Gray; wings blackish, gray banded; tail rather longer than the closed wings, black banded. South America.

Cap. Nattereri. Temm. Pl. Col. t. 107.

Breast, wing, tail, and above black, red spotted; throat dusky, with a white lunule spot; belly, vent, and under tail-coverts rufous, black barred. Brazils.

Long tailed Goatsucker. Lath. H. vii. t. 14. *C. climaturus.* Vieil. Gal. t. 112. *Cap. longicaudus.* Steph.

Variegated brown; ferruginous and black; crown, ash, spotted with rust; throat with a white spot; tail longer than the body, barred with dusky. Senegal.

Gold coloured Goatsucker. Capr. torquatus. Gm.

Two middle feathers of tail longest; ash brown, varied with dull yellow, and whitish spots; collar golden. Brazils.

Capr. gracilis. Lath.

Tail lengthened; above ash; varied with brown and white; beneath white striated, and spotted with ferruginous yellow; middle toe. New Holland.

Caprimulgus Hirundinaceus. Spix. Braz. ijt. 2. f. 1.

Small; fuscous brown; throat, and beneath, red black banded; tarsi woolly; outer tail feather banded, and internally tipped with white; middle claw serrated; tail equal; Brazil.

Chuck Will's Widow. *Capr. Carolinensis,* Gm. Wils. A. O. t. 54. f. 2. pl. Enl. t. 735. *C. rufus.* Vieil. C. *brachypterus.* Shaw.

Bristles shorter than the bill; tail rounded, reaching an inch beyond the wings; three outer-tail feathers on the inner web at tip white; *in fem.* ochraceous. North America. Twelve inches.

Whip-poor-Will. *Cap. Virginianus.* Vieillot. O. A. t. 23. not Lin. *C. Vociferus.* Wils. A. O. v. t. 41. f. 1, 2, 3.

Bristles much longer than the bill; tail much rounded, reaching one-half beyond the wings; primaries mottled; outer-tail feathers tipped with white; in *fem.*; ochreous. North America.

Capri. infuscatus. Ruppel. Atlas 16.

Body reddish brown; feathers all finely waved with black; throat, chin-band, quills, and two outer tail feathers white; whiskers large, strong.

White-throated Goatsucker. *Cap. Albicollis.* Lath. Vieillot. Azara. n. 310.

Above reddish brown, varied with pale black; beneath red, transversely black lined; throat white; primaries white banded. S. America. Allied to *Virginianus.*

Caprimulgus Sphenurus. Vieil. Azara.

Head and scapulars black and brown; wings black, varied with white and red; throat reddish white; body, beneath, and back, blackish; white streaked.

Cap. Torquatus. Vieil.

Ash brown, varied with dull yellow and whitish spots;

collar golden; two middle tail feathers longest; feet black. S. America.

Javan Goatsucker. Lath. *Capr. Macrurus.* Horsf.

Clouded, ferrugineous, and blackish; vertical streak and band on the wings quite black; tail longer than the body; wedge-shaped; throat band white. Java. Length, ten inches.

Chuppa Goatsucker. Lath. *Cap. Affinis.* Horsf.

Variegated, black, brown, and ferrugineous; quills brown; three outer white banded; rest variegated, ferrugineous, and gray; two outer tail feathers internally white. Java. Length nine inches. Allied to C. *Asiaticus.* Lath.

Bombay Goatsucker. Cap. Asiaticus. Lath. *C. Pectoralis.* Vieil. Vail. O. A. t. 49. *C. Pectoralis.* Cuv.

Ashy, clouded, with black and ferrugineous; pectoral band ash; vertical streak blackish; maxilla and gular spot pale; middle claw toothed. India. South Africa.

American Goatsucker. Cap. Americanus. Gm. Sloane. Jam. t. 255. f. 1.

Body gray, variegated with yellowish brown; nostrils cylindrical. America.

Varied Goatsucker. Caprimulgus Variegatus. Vieil. Azara. in. 313.

White, varied with black and brown; beneath, cross lined, with blackish; throat white. Paraguay.

Guiana Goatsucker. Cap. Guyanensis. Gmel.

Fulvous, spotted and streaked with reddish; a white subgular moon.

Rufous Goatsucker. Cap. Rufus. Gmel. *Cap. Guyanensis.* Var. Vieil. Pl. Enl. t. 735.

Rufous, varied with black; wing coverts, and body beneath blackish-banded; quills red and black; tail black-banded. Cayenne.

Brazilian Goatsucker. Cap. Brasilianus.

Blackish, varied with yellowish, and punctated with white; beneath, variegated white and black; tail as long as the wings.

Indian Goatsucker. C. Indicus. Lath. *Cap. Cinerescens.* Vieil.

Ashy, with black cross lines; cheeks, chest, and wings spotted with ferrugineous; tail ashy, black banded; outermost feathers variegated, foruginous and black. India.

Caprimulgus Nacunda. Vieil.

C. Diurnus, Pr. Max. Pl. Col. 182. *C. Campestris.* Licht. *Nacunda.* Azara. n. 312.

Red-black; dotted throat, with a white lunule spot beneath; white chest, brown-lined; middle toe said to be serrated. Paraguay.

White-collared Goatsucker. *Cap. Semitorquatus.* Lath. Pl. Enl. 734.

Blackish, spotted with red and grey; neck with a white crescent. Cayenne.

Jamaica Goatsucker. Lath. *Capri. Jamaicensis.* Gml. Enl. 98.

Ferrugineous black, streaked; wings white, variegated; quills brown, white spotted; tail black-banded; middle claw entire. Jamaica.

Caprimulgus Leucopygus. Spix. I. 3. f. 2,

Small: olive-brownish black; beneath black; throat white waved; and wings spotless; tail equal, inner base white marked; feet naked, not serrated. Brazil.

Caprimulgus Longicaudatus. Spix.

Ferruginous; spotted, with black chest; beneath with white lunule spot; tail longer than the wings; subgraduated; posthumeral coverts whitish; quills and tail reddish, black banded; tarsi scarcely naked; middle claw not serrated. Brazil.

One half of the end of tail-feather acutely subtulated.

Sharp-tailed Goatsucker. Caprimulgus Acutus. Lath. Pl. Enl. t. 7. 32.

Olive-grey; beneath red, rayed all over with blackish; head and neck red-brown. South America.

One has tail forked, and the middle claw serrated.

Cap. Enicurus. Vieil. Azara. 315.

Crown whitish, varied with blackish lines and dots; throat with a white crescent; body olive-brown; beneath red, cross-lined with blackish. Brazil.

Africa has also some of them; and, among the number, some with pointed tails, and others with

forked tails approaching Hirundo. There is one also in America, the forks of whose tail are longer than the body. The middle claws of these species with forked tails is not indented.

Scissor-tailed Goatsucker. Lath. Caprimulgus Cornutris, Vieil. *Urutau* Azara, n. 308. *C. Grandis*, Gml. *C. psalurus.* Tem. Pl. Col. F. 157-158. Pl. Enl. 325.

Body olive-red, varied with black and brown; beneath red, brown, and black; belly whitish-brown; throat reddish; side of the face with egrets.

Fork-tailed Goatsucker. Cap. Forficatus. Vieil. Vail. O. A. p. 47-48. *C. Furcatus.* Cuv.

Black, brown, and white variegated; tail very much forked. Cape of Good Hope.

Some have the tail forked, and the middle toe serrated.

Cap. Furcifer. Vail. Azara. 309.

Blackish; chest whitish, lined with reddish and blackish; belly pale red; quills blackish, cross-lined with red and white; feet feathered.

Caprimulgus Rupestris. Spix. Braz.

Throat whitish; abdomen, middle of the wings, and the sides of the tail, which is shortly furcated, white; chest brownish; tarsi half naked. Brazil.

Night Hawk. Capri. Virginianus. Gm. *C. Americanus.* Wils. A. O. fi. 40. f. 12. *C. Popetue.* Vieil. O. A. f. 29.

Bill without bristles; tail forked, not reaching to the

tips of the wings; primaries plain blackish with a white spot. In the male, the triangular throat spot and tail band white. North America.

Tail forked, but of which the middle claw has not been observed.

Banded Goatsucker. Cap. Vittatus. Lath. Supp.

Under part bluish; back bluish-clouded; crown and nuchal band black; quills and tail, ferrugineous brown. New Holland.

Strigoïd Goatsucker. Cap. Strigoïdes. Lath.

Ferrugineous brown; above varied with dull streaks and spots; beneath brown; wing-coverts with three pale lines; eyebrows white; tail slightly forked. New Holland.

Cap. Manurus. Vieil.

Silvery grey, spotted with black; smaller wing-coverts white spotted; tail, two outer feathers five inches longer than the middle ones, the third and fourth very short. Brazil.

A species, also from Africa, but with the tail round, is very remarkable for having a feather twice the length of the body, arising near the bend of each wing, which is only bearded near its extremity. *Cap. Longipennis* of Shaw. Nat. Misc. t. 265.

C. Macropteropus of Afzelius. Hist. Sierra Leone. *White-throat Goatsucker. C. Albo Gularis.* Vigors, and Horsfield, from specimen in possession of M. Leadbeater.

Brown, varied with black, grey, and yellow; underneath yellowish; spot on throat white.

Spotted Goatsucker. C. Guttatus. Vigors and Horsfield. Lin. Trans.

Ferrugineous, spotted with brown; quills spotted with yellow. New Holland.

New Holland Goatsucker. Caprimulgus Novæ Hollandiæ. Lath. Philip. New South Wales.

Olive-brown, clouded with black and white; beneath whitish; neck and chest, obscurely banded; tail rounded; middle claw entire. New Holland.

This forms the genus ÆGOTHELES of Horsf. and Vigors.

THE PODARGES. PODARGUS CUV.

Have the form, colour, and habits of the goatsuckers, but their bill is slender, and they have neither interdigital membranes or indentation of the middle claw.

Mr. Vigors considers them as connecting the goatsuckers with the owls.

The Ash-coloured Goatsucker. P. Cuvierii. Vieill. Gal. 123.

Coloured, varied tints of ash, whitish and blackish; as big as a crow.

The Red Podargus. P. Javanensis. Horsf.

Red, varied with brown; a white band along the scapulars.

The Horned Podargus, P. Cornutus. Pl. Col. 159.

Red, varied with white; and with great tufts of feathers at the ears.

M. Temminck identifies this species with the last.

Cold-river Goatsucker. Lath. vii. 369. *P. Humeralis.* Vig. Hors. *P. Australis.* Stephens.

Dark, varied with black stripes, and black upper feathers; outer web of quills with white; tail slightly banded.

The Great-headed Podargus. Caprimulgus Megacephalus. Lath.

Pale brown; head and neck very large, and full of feathers; belly pale-ash. New South Wales.

Trinidad Goatsucker. Steatornis Caripennis Humb.

Gray-brown, varied with small streaks and dots of black; quills and tail white. South America.

M. Humboldt separates this remarkable species generically from Podargus, under the name Steatornis.

SUPPLEMENT ON THE FISSIROSTRES.

THE habitat of the swallow is said to extend itself to all those parts of the earth's surface in which insects, its principal food, are to be found. In climates which are exposed to considerable changes of temperature, these birds indeed are only seen periodically; but in intertropical countries, especially those which border on the temperate zones, as Egypt, Ethiopia, Lybia, &c. they remain during the whole year. The object attained by this phenomenon is principally a continued supply of food, and has probably but little reference to any given degree of atmospheric temperature necessary to these birds, whose country seems almost to be the world at large.

The cleft beak has furnished systematists with a character whence to name this family of birds *Fissirostres*, but the rapidity and dexterity of their flight would have afforded a still more striking distinction. They may, with peculiar propriety, be called tenants of the air, since they hunt their prey, and eat it, drink, and occasionally even feed their young, on the wing; indeed when not under the migratory influence, they may be said to live entirely on the wing and in the nest. Their rapidity is well known, and the "murder aiming eye" of the most experienced sportsman will seldom avail against the swallow, unless it be at the instant the bird makes an angle in flight, which it is remarkable for doing, probably in the pursuit of some insect out of its direct course; hence they themselves seldom fall a prey to the raptorial birds, while they commit the greatest havoc among

the insect tribes, particularly those in the winged state, which they pursue with unabated vigour and success. This pursuit is either close along the surface of the ground, or more or less elevated above it, according to the state of the atmosphere, which seems to govern the elevation of flight of insects. The relative state of humidity in the air may thus be inferred from the elevation of the swallow's flight, while the vulgar regard it as actually anticipating the weather.

That swallows are serviceable to mankind, by the destruction of hosts of insects, injurious to our industry and convenience, cannot be doubted; but there is certainly more of enthusiasm than of sound philosophy in asserting, that this was the object of their creation; and there is perhaps too great a proneness in many well meaning persons, of warm imaginations, to conclude, that man is as it were the sole object of creation, and that every thing beneath him is wholly subservient to his existence. Man has indeed enough to be grateful for without derogating from the value of inferior creatures, or concluding that one set of beings was created solely for the destruction of another, that the balance of power might be thus preserved exclusively for his convenience. That this balance of power is a subject of the greatest admiration is perfectly true; but that it is attributable to a much higher and more direct agency than that alluded to, is most probable.

The emigration of birds is a subject so entirely independent of all physical principles, as far at least as we can discover, that it may, without any figure of speech, be considered a standing miracle. We are generally ready rather to run into absurdities in endeavouring to account for phenomena by material sensible agency, than to admit that our own powers of intellect are too finite to conceive the *modus operandi* of Providence.

Hence, with reference to the particular subject of the migra-

tion of Swallows, has probably originated the absurd systems incompatible with all the principles of physiology, which have been invented to account for the periodical disappearance of these birds, although the actual fact of emigration is more easily observable in them than in any other of the class.

A bishop of Upsal in 1555, *Olaus Magnus* (the epithet could not have been applied to him as a naturalist), asserted that the fishermen in northern countries frequently caught in their nets clusters of swallows attached closely to each other, which, if kept sufficiently warm, were soon restored to animation, and that those left in the water, on the approach of warm weather, rose to the surface, and then took to flight, resuming their accustomed habits. However incredible this tale, it was generally received, and even supported by real observers of nature, among whom must be reckoned even the great Linnæus; a position, however, emanating from such a source, and recommended by such authority, was certainly, in respect not to itself but its supporters, deserving serious investigation, which it has therefore meritedly undergone.

Montbeillard, who has examined this story, observes, that if it were true that all the swallows of any particular place or country, voluntarily plunged into the water yearly in October, and quitted it again in April, there must have been frequent opportunities of verifying the fact, either at the period of their immersion, or their subsequent emersion: yet no credible witness, whose veracity and judgment could be relied on, has vouched for having seen it; and notwithstanding the rewards offered at different times, no specimens of swallows found in a state of suspended animation under water, have ever been forthcoming. The certificates produced by Klein, (another supporter of this doctrine) in his dissertation *De Hybernaculis Hirundinum*, speak only of isolated facts, not recent, or else founded on mere hearsay. Testimonies of this sort cannot avail against the established physiological princi-

ple, that a bird to whose being, air in abundance is so essential, could exist even by suspended animation, in the medium of water which would prevent the access of all air to the lungs.

Another hypothesis to account for the disappearance of swallows has been invented, which is, that they retire to caverns and holes in the ground, and there remain torpid, like some of the mammalia, during the winter. This has been insisted on principally from the story published by Achard, who states, that while travelling down the Rhine about the end of March, in the year 1791, he saw children pulling birds out of holes on the banks, and having purchased some of them, which he found to be dormant, and, as it were, inanimate, he put one in his bosom, which, in about half an hour, awaked and flew away.

Montbeillard, and especially Spallanzani, who was never stayed in the pursuit of natural knowledge by any feeling for the victims of his experiments, have examined the probability, or rather possibility, of these birds falling into a torpid state. The latter has ascertained, by the use of artificial cold, that swallows do not appear to suffer by cold at the freezing point; that at 8° or 9° below it, they are sensibly affected but not killed, and that at 13° or 14° they speedily die.

To ascertain the effect of a continuance of low temperature, Spallanzani enclosed some swallows in wicker baskets, covered with waxed silk to preserve them from humidity, and buried them in snow, through which he made a hole for the admission of fresh air. At the end of thirty-five hours some of them were dead, and others were greatly debilitated, but shewed no signs of lethargy; ten hours after they had all died: and this experiment, first practised in the month of May, was repeated in the following July with the same effect. To assure himself that the death of these birds was not caused by want of food, the experimentalist placed other swallows in his own room, and without food; some of them resisted death till the fifth day, and none died till after three

days and an half. There remained, therefore, no doubt, that the buried birds died from cold and not from starvation, and did not pass into a lethargic state; and hence we may conclude they never do, a piece of knowledge, like many of those of the Italian naturalist, purchased at far too high a price,—no less than the sacrifice of the best feelings of humanity, when the end proposed was merely one of curiosity, inapplicable to all useful purposes.

So prevalent, even still, is the notion, that swallows take spontaneously to the beds of rivers, or pass the winter in a torpid state, that the re-recital of these experiments, and matter of fact to refute them, is not, as yet, needless.

Swallows have been kept in cages during the whole winter, and have been found to moult during that season, which could not happen if the birds were under water. In Mr. Bewick's History of British Birds is the following account, from the pen of Mr. Pearson:—

"Five or six of these birds were taken about the latter end of August, 1784, in a bat fowling-net at night; they were put separately into small cages and fed with nightingale's food; in about a week or ten days they took food of themselves; they were then put all together into a deep cage four feet long, with gravel at the bottom; a broad shallow pan, with water, was placed in it, in which they sometimes washed themselves, and seemed much strengthened by it. One day Mr. Pearson observed that they went into the water with unusual eagerness, hurrying in and out again repeatedly with such swiftness as if they had been suddenly seized with a frenzy. Being anxious to see the result, he left them to themselves about half an hour, and on going to the cage found them all huddled together in a corner apparently dead; the cage was then placed at a proper distance from the fire, when only two of them recovered, and were as healthy as before; the rest died. The two remaining were allowed to wash themselves occasionally for a short time only, but

their feet soon after became swelled and inflamed, which Mr. P. attributed to their perching, and they died about Christmas; thus the first year's experiment was in some measure lost. Not discouraged by the failure of this, Mr. P. determined to make a second trial the succeeding year, from a strong desire of being convinced of the truth respecting their going into a state of torpidity. Accordingly, the next season, having taken some more birds, he put them into the cage, and in every respect pursued the same method as with the last; but to guard their feet from the bad effects of the damp and cold, he covered the perches with flannel, and had the pleasure to observe that the birds throve extremely well; they sung their song through the winter, and soon after Christmas began to moult, which they got through without any difficulty, and lived three or four years, regularly moulting every year at the usual time. On the renewal of their feathers, it appeared that their tails were forked exactly the same as in those birds which return hither in the spring, and in every respect their appearance was the same."

M. Natterer has also kept a number of swallows in cages for eight or nine years together, and has observed that they all moulted about the month of February, the period when these birds having quitted Europe, are found in the warmer countries of Africa and Asia. It is obvious that their moulting at this period is irreconcilable with the idea that they hibernate in this country under water.

The activity of these birds, as the period of their emigration approaches, is very amusing, and we have a fine opportunity, especially on the southern shores of our own island, of witnessing their departure in many and numerous flocks. For some days previously to their quitting our shores, they may be seen in clusters so thick, sticking to the walls and sides of houses and elevated buildings, as to hide, even at a small distance, all appearance of that on which they rest, till at last they all quit together, and fly for a time east or west,

possibly in wait for stragglers not yet arrived from the interior, or take directly to the south, and are soon lost sight of altogether for the allotted period of their absence.

We have already observed that the primary object of emigration is a supply of food; and as in temperate countries, occasionally exposed almost to the extremes of cold as well as heat, the air abounds with insects only at particular seasons, it is natural enough that these birds, whose locomotive powers, to almost any distance, are so striking, should quit such countries when the cold begins to deprive them of a sufficient supply of food. The fact abstractedly is less surprising than the mode, the regularity, and the punctuality with which it is performed. The whole of them quit our shores and the whole continent of Europe, and pass simultaneously in organized bodies over the Mediterranean into Africa; they arrive in Senegal about the ninth of October, and quit it for the north, in spring; and however difficult to be credited, it seems ascertained beyond doubt, that the same pair which quitted their nest, and the limited circle of their residence here, return to the very same nest again; and this, for several successive years, in all probability, therefore, for their whole lives. The simple experiment of tying a silk thread round the leg of one of these birds (which has been repeatedly done,) will convince any one of the truth of this astonishing fact. Others have been caught, and carried in covered cages to very great distances, and then turned out. These have been observed immediately to fly to a great elevation, and then to describe a large circle several times, until having decided on the right course, they have proceeded, almost with the rapidity of an arrow, undeviatingly to their nest.

Many anecdotes are related of the sociability and mutual readiness of these birds to assist each other; but the story that these birds will unite to close the entrance of any nest which may have been taken possession of, during their absence, by a

sparrow, seems to want confirmation. That this intruder will sometimes get possession of their nest, seems ascertained; but the possibility of any number of swallows keeping the sparrow in while they compound, agglutinate, and harden a sufficient barricado against his escape, may be well doubted. Montbeillard has observed, that in such cases, the swallows will associate and threaten, if not attack, the intruder; but he seems to think, that the sparrow is left eventually in peaceable possession of his usurped domicile, which, according to that naturalist, even if abandoned by the sparrow, would be spoiled by his temporary occupation, for the uses of its original builder.

The swallows, properly speaking, are divided into many sections in the "Règne Animal," all of them having the toes and the sternum disposed as in the passerine birds in general; but in some, the thumb is nearly capable of being turned in front, and these have the feet feathered down to the toes and the tail forked. Others have the toes naked, and the forks of the tail very long. Some have the tail nearly square &c.; but we shall proceed to the habits, &c., of some of the species, by which the general character of the whole genus may be estimated.

The *Martin (Hirundo urbica*, Lin.), says Daubenton, is domestic by instinct, seeking the society of man in spite of all its inconveniences, in preference to all others. This opinion maintained also by Montbeillard, and on which many sentimental reflections have been expressed, is opposed by Spallanzani, who would refer the nidification of these birds in our chimneys and window corners, more to the convenience afforded by this angle to the bird for the purpose, than to any predilection for human society. The dog, and some other quadrupeds, teach us, certainly, that *they* are capable of sentiment and preference; but there are many circumstances of parity in the existence of man and the quadrupeds, which are not to be found in creatures of two distinct classes. Nor

does there seem to be any other circumstance from which we may reasonably conclude in favour of the instinctive propensity of this bird for the society of man, than that of its attaching its nest to our dwellings, and this must be limited in its extent. The architecture of Africa cannot afford similar conveniences to these birds during their absence from Europe.

This species is thought to be less familiar than the swallow, properly speaking, and arrives here about the middle of April, eight or ten days later than the other. They build in the corners of windows, or under the eaves of houses. These are composed exteriorly of earth or clay, especially worm casts, which they moisten and agglutinate more effectually than the best prepared wall of a mud cabin. Within, they are lined principally with the feathers of other birds, dry grass, &c.; the nest is larger than that of the swallow, but the opening, which is on the side at top, is smaller. They are said to have three broods during their stay here, viz., in May, June, and July, probably four or five at a time.

Each incubation continues about fifteen days, and so well do the parents supply their young with food, that the crop may be observed to be enormously distended, and the young, as it is said, to weigh even more than the old birds; nor do they quit the nest immediately on being able to fly, but continue some time longer to nestle with the parent bird.

It appears, that in the south of Europe, these birds do not confine themselves to human habitations, but frequent also marshy spots, where they build and rear their young; and it is observed of these by Montbeillard, that they do not, like those which frequent houses, return several seasons to the same nest, but build a new one every year.

The *Common Swallow*, or *Chimney Swallow*, so called to distinguish it from the marten, or window swallow, is best distinguished by the feet, which are naked, while those of its congeners are downy. This species visits us a few days earlier in the spring than the marten; nor does it migrate, as is said,

so far to the south as the other species above named. Once arrived in this country, they are not observed to desert it again until the usual period of their return; but in the south of Europe, according to Spallanzani, they will retire to the south even after their arrival, in the event of a prevalence of sharp and cold winds, and return again in settled fine weather. The experiments alluded to in the former part of these observations, on the genus, evince that some degrees below freezing will not destroy these birds, even when left altogether exposed.

The swallow builds in general in the inside of chimnies, in which no fires are kept, and sometimes in other covered shelters about buildings. The female is said to have but two broods here: the first, about five, is probably more numerous than the second: the eggs are white, with reddish spots, while those of the marten are simply white. The experiment of marking a pair of these birds, by tying a silken thread to the leg or otherwise, has evinced, by the return of the same individuals to the same spot, in the following season, that they are monogamous. The parental tie appears to be equally strong as in the marten.

In their habits, instincts, persons, migration, &c. the swallow, the marten, and the swift are greatly assimilated. Their physical specific differences are mentioned in the text; and their instincts, equally disposed in favour of human habitations, differ only in the preference of one for the chimney, and of the other for the window; a difference which, however unimportant, is nevertheless curious for its undeviating nature in both.

The *River Swallow* (*H. riparia. Lin.*) does not arrive in this country until a few days after the swallow and marten, and it is thought to return to the south about the same time before them. They nestle in holes made principally in sand-banks which are two or three feet in length horizontally. The eggs, from four to six, are white. They may be seen

flying continually to and from near the surface of the water, without departing any distance from their nests in the neighbouring banks. They seem, like their congeners, to have or three broods in a season.

Spallanzani tried a similar experiment on this species as he had previously done on the swallow and marten. Having drawn a male and female from the nest at the extremity of the hole, by means of a hooked wire, he carried them from Pavia to Milan; and having arranged with a friend the precise moment when they were to be set at liberty at the latter place, they were seen to enter the hole again exactly thirteen minutes after their departure; and, by means of silken threads, the same pair were observed to return the following season to the same hole.

It has been thought that this species is more hardy than the rest, and hibernates in the hole in which it breeds; but many of these holes have been inspected in the winter, and no birds have been found: nor does there seem any good reason to conclude that they differ from the swallow and marten in anything more essential, than those two species differ from each other; the sand-bank distinguishes these from them, as the window and the chimney distinguish them from one another. It will be observed, however, by his language in the text, that the Baron is inclined to a contrary opinion.

The Purple Swallow (*Hirunda purpurea. Lath.*) is a beautiful species. At first sight it appears altogether black, but its plumage, far from being uniform, varies according to the position of the eye which observes it, and the movements of the bird, and casts the most brilliant reflections of blue, violet, and purple.

This swallow is protected by the Americans with great justice. It not only diminishes the number of winged insects which cause so much inconvenience, but it warns the poultry of the approach of birds of prey. The instant one of the latter makes his appearance, these swallows all assemble, and

soon put him to the rout, by the pertinacity of their attacks and their clamorous cries. They nestle in holes made expressly for that purpose, about the houses or under cornices, like the window swallow. During the entire summer they are found in such places, but retire on the approach of winter.

This swallow is an inhabitant of Louisiana, of Carolina, and of all North America, as far as Hudson's Bay.

The *Hirundo Fusca*, *Vieill.*, is a native of Paraguay. It rarely enters towns or villages. It is usually observed singly, or in pairs; but when winter approaches, which is the period of its departure, it forms troops, sometimes of an hundred individuals. It is much more rare and more wild than the domestic swallow of the same country. It is imagined generally to nestle in holes, and is said to dispute sometimes for the nest of the rufous bee-eater, or the dwarf-parrot.

Hirundo Cayanensis (the *White-collared Swift* of Latham) is distinguished, as its name imports, by a collar of the purest white, finely contrasting with a velvet black with violet reflections, which predominate in the rest of the plumage. This bird makes its nest in the houses. It is very large, and constructed with dog's-bane, in the form of a truncated cone, one of the bases of which is five inches in diameter, and the other three; its length is nine. The larger base is composed of a sort of pasteboard made of the same material. The cavity is obliquely divided about half-way its length, by a partition, which extends over that part of the nest where the eggs are, that is pretty near the base, and over this is a sort of plug of the soft down of the dog's-bane, to shield the young ones from the external air.

The *White-rumped Swallow* of Paraguay (*Hirundo Leucorrhoa*, *Vieillot*) is not wild. It flies very near the ground in the open country, and does not usually enter inhabited places. It is fond of accompanying travellers and seizing the flies and butterflies which they disturb. It nestles in the holes of palm trees, &c.; but near the river of La Plata, where there

are no trees, it lays its eggs in holes in the ground. The nest is constructed with nothing but leaves and plenty of horse-hair. The entrance of this nest is so narrow, that it is impossible to draw out the young ones. This swallow is sedentary in Paraguay, rather common, and chirrups much in the spring season.

The *Domestic Swallow* of Paraguay is called by the Guaranis, *Mbiyuí*. This name expresses its cry, which consists in repeating several times the syllables of this word, and they have applied the same name to all the species. It inhabits Paraguay and the river La Plata, and nestles on the cabins and country houses. But in cities and towns it chooses, in preference, churches and large buildings, where it fixes its nest to the beams or walls, but always in such a manner, that it is scarcely apparent; sometimes this nest is found under the tiles. It is said to be composed of clay without and a little straw within. The eggs are three or four in number. This species frequently perches on the crosses of weather-cocks, or the ridges of roofs, and on the barriers of enclosures. During summer, these swallows sleep in the interior of orangeries, or of tufted trees; but if ever so little cold should occur, they pass the night in holes, or under the tiles. They are birds of passage, but their periods of absence and return are not so strictly regulated as in Europe. They are determined by the greater or less duration of the cold, and consequent abundance of insects; so that if the winter be mild, they are scarcely two months out of Paraguay, but, in the contrary case, they are absent four months. They pass the winter in the 20th degree of south latitude.

The *Gray Rock-Swallow* (*H. Montana*), from which it is probable that *H. rupestris* ought not to be separated, notwithstanding some little differences of colour, nestles in the Alps, and does not descend into the plains except for the purposes of hunting. Its flight is slower than that of the other species, and it pursues its prey in company with

the martin swallow. These birds arrive in Savoy towards the middle of April, and depart from the 15th of August; yet some lingerers are to be found as late as the 10th of October.

The *Hirundo Javanica* has been sometimes confounded with our *rustica*, from which, however, it differs (according to Mr. Vigors and Dr. Horsfield) chiefly in its inferior size; the side-feathers of the tail are also shorter and less slender; the frontal band is wider, and the ferrugineous colour extends over the breast, instead of the broad black band which distinguishes ours. It is a native of Australia as well as Java, and the specimens from the former region, in the collection of the Linnæan Society, accord perfectly with M M. Temminck's and Sparman's figures and descriptions of the Javanese species. To find the same birds in countries so widely remote from each other, is only to be accounted for by their migratory disposition.

From Mr. Caley's MSS. we extract the following, which is quoted in Mr. Vigors and Dr. Horsfield's description of Australian birds, in the collection of the Linnæan Society.

"The resting-places of these swallows are on the dead boughs of large trees, where I have seen several of them gathered together, in the same manner as European swallows on the roof of a house. I apprehend, however, that it is when their young have taken to flight that this occurs.

"The earliest period of the year that I noticed the appearance of swallows, was on the 12th of July 1803, when I saw two: but I remarked several towards the end of the same month, the following year (1804). The latest period I observed them was on the 30th of May 1806, when a number of them were twittering and flying high in the air. When I have missed them at Paramatta, I have sometimes met with them among the North Rocks, a romantic spot about two miles northward of the former place.

"The natives call the swallow Berrin'-nin; they told me

it built its nest in the hollow limbs of white gum-trees, using bark, grass, hair, or similar substances; but when it built in old houses, it made use of mud. These old houses are the deserted huts of settlers, who have abandoned their worn-out farms; and the nests are constructed on the wall-plates, as they are called, in the colony. Of the nests which have been brought to me, I have observed that the outside was made of mud, and the inside lined with feathers. Though I have seen swallows more or less throughout the year, yet it is my belief that they are migratory. The eyes are black."

Although in our general introduction to birds we have noticed the nests of the *esculent swallow*, it will be necessary to add a few details on the subject in this place.

This bird, which inhabits banks, shores, &c., is designated in the Philippine Islands by the name of *Salangana*, and is celebrated by the very singular nests which it constructs. These nests have been compared to those productions called by the ancients the nests of the halcyon; but the comparison does not hold good, for those maritime productions so called by the ancients, are not birds' nests, but the receptacles of the polype, which at present are termed *alcyonium*.

All authors are agreed on the estimation in which the Chinese, and other Asiatics, hold the nest of the Salangana, as a delicacy of the table, and on the high price and value which they bear; but they differ much as to their nature, form, and the places in which they are to be found. According to some, the substance of these nests is a sort of froth of the sea, or of the spawn of fish, which is strongly aromatic, though others assert that it has no taste at all; some pretend that it is a kind of gum, collected by the birds on the tree called *Calambone*; others, a viscous humour, which they discharge through the bill at the season of reproduction. Many again declare, that these swallows compose their nests of the *débris* of *holothuria*, &c.

As to their form, some say that it is hemispherical; others

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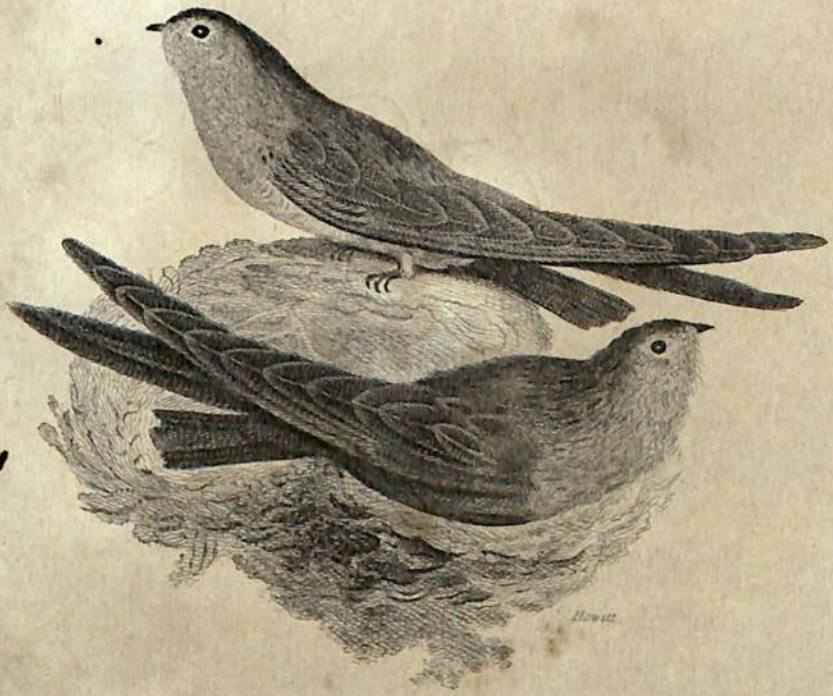

ESCULENT SWALLOW.

H. ESCULENTA.

London Published by G.B. Whittaker Nov 1st 1829

represent it like the valve of a shell, with similar stria or rugosities.

With regard to the places where these birds construct their nests, some assert that they attach them to rocks, very near the level of the sea. Others that they are in the hollows of these same rocks; and others, that they conceal them in holes in the earth.

According to Kœmpfer, these nests, as we are acquainted with them, are nothing more than a preparation made from the flesh of the polype. From such contrarieties many were inclined to believe that either these nests did not exist at all, or that nothing to be depended on was known concerning them.

Montbeillard, for the purpose of settling these doubts, addressed himself to M. Poivre, a very enlightened and accurate observer. This traveller, while he was employed in collecting shells and corals, in a little islet called *Petit Toque*, situated near Java, entered into a tolerably deep cavern, hollowed in the rocks which border on the sea, and he found its sides, &c. hung with small nests, closely adhering to the rock. When these nests were removed, they were recognized by persons who had made several voyages to China, to be the nests held in such high esteem among the Chinese. The birds which had constructed them, were distinguished by M. Poivre to be true swallows, but whose size was nearly that of the colibris. He adds, that in the months of March and April, the seas which extend from Java to Cochin China to the north, and from the western point of Sumatra to New Guinea on the east, are covered with the spawn of fish, which forms on the water like a strong demi-diluted glue, and that he learned from the Malays, the Cochin Chinese, the Indians of the Philippine Islands, and the Moluccas, that the Salangana makes its nest with this fish-spawn. They were all agreed on this point. The bird collects it either as it shaves the level surface of the sea, or when it places itself on the rocks where

this spawn is coagulated and deposited. At the epoch of the construction of the nest, threads of this viscous matter have been observed to hang from the bill of the bird. The observer we have quoted, collected some of this fish-spawn, and having dried it, declares it to be similar to the substance of the nests of the Salangana.

Notwithstanding all this, Sir Everard Home, who has investigated the stomach of a bird of this description, has given his decided opinion that the edible nests are composed of a substance secreted by the glands of that organ.

In our introductory essay on birds, we have cited another opinion, which appears to be by no means void of foundation. But we must refer our readers to the part in question, and forbear all repetition here.

At the end of July and in the commencement of August the Cochin-Chinese collect these nests. The species does not suffer by this, as these swallows multiply in March and April.

The form of the nests, according to the most accurate observers, is that of a semi-ellipsoid, hollow, elongated, and cut at right angles through the centre of its grand axis. They are composed externally of very slender laminæ, nearly concentric, and inclining so as to cover each other. The interior exhibits many layers of irregular net-work, with very unequal meshes, superposed on each other, and formed by a multitude of threads of the same substance as the exterior, and which cross and re-cross each other in every direction. This composition, which has a slight flavour of salt, is of a yellowish demi-transparent white. It softens in hot water without dissolving, and swells as it softens. It constitutes a substantial nourishment, full of prolific juices; and its effect, says Mauduyt, is excellent on exhausted constitutions, and where the stomach performs its functions badly. Poivre assures us, that he never ate any thing more nourishing and restorative than the soups made of these nests and some good meat combined.

These nests are of two kinds, the white and black. Some inhabitants of Sumatra are of opinion that they are the work of swallows of two different species. But Marsden, who relates this opinion, presumes that the white nests are those of the same year, and the black the old ones. He cites a fact, which seems to set the matter at rest. The Sumatrans, who collect these nests, destroy the old ones which they cannot bring away, in great quantities, that they may have a fresh supply of white ones in their place the approaching season.

These birds employ nearly two months to construct their nests, lay two eggs in each, and hatch them for about fifteen days. When the young are feathered is the time to carry off the nests, which is done three times a year. It is certain that these birds have three broods every year. They do not appear, according to Kirker, on the coasts, except in the laying season: but M. Poivre tells us, that they live all the year round in the islets, and on the rocks where they were born.

In the opinion of Sir George Staunton, followed by Dr. Latham, there is more than one species of swallow engaged in the construction of these curious and celebrated nests. The Doctor gives a figure of what he names the esculent swallow (for the subject we are now on he calls the *edible*), with its nest, which is as large as the river swallow. This was sent from Sumatra, with its nest and young, to Sir Joseph Banks, who presented them to Dr. Latham.

We shall now make a few observations on the swallows of South Africa, from M. Levaillant.

All the swallows which nestle in this part of the globe remain there only during the summer season, when there is the greatest degree of heat; and all the species of hirundo seen there during the winter of that country, or the rainy season, called in these climates the bad monsoon, are birds which come from other countries of Africa, after having had

their brood in them, and which do not make a second there. This is evident from these last always bringing their young ones with them; and as the swallows which return to pass the hot weather in these same countries, for the purpose of reproduction, do not bring young birds with them, it is a proof that they have not brought forth during their absence. This is an additional argument that the birds do not reproduce in the two seasons of the year, although they change countries. We may further remark, that the birds which are purely birds of passage in a country, and do not reproduce there, never arrive during the brooding season of that particular country; and it is also not to be expected that they should lay at a season when none of the indigenous birds of the country do so. Such observations must of necessity throw great light on the migrations of birds, if travellers attend particularly to discover, in the countries they visit, the species which reproduce there, and those which do not.

The observations of M. Levaillant on this subject are so interesting, that we shall make a further extract of their substance.

He remarks, and the observation is of equal interest and importance, that a certain species which makes its brood in one country, quits that country and goes elsewhere; while, frequently, other individuals of the same species which have reproduced elsewhere, come and replace the former. This would very naturally lead us to conclude that it is not always the want of food that induces birds to expatriate, but an absolute necessity of changing climate. In Europe, where during winter no insects are found, it is very natural that the species which have no other nutriment, should, all of them, or for the most part, migrate. Some few, indeed, as we have seen, remain, and pass this rigorous season among us, still finding wherewithal to subsist. But in the very warm climates, from which all the swallows which have nestled there

depart on the entrance of the rainy monsoon, most assuredly it is not the want of nutriment which causes them to migrate, for in this very same season other swallows arrive, which remain there, and find wherewith to subsist. Among migrating birds, we must also make a difference between those that only traverse a country, and those which make a regular sojourn of many months.

"It would appear," says M. Levaillant, in conclusion, "that the birds of every country may be divided into three distinct Classes: the birds proper and peculiar to the country, that is, those which nestle there; the stationary birds, which sojourn there without reproducing; and, finally, the birds of passage, which only traverse the country without either stopping or leaving any offspring. But before such a division can be established with any thing like accuracy, how much labour, observation, and patience, will be necessary! One thing we may venture to predict, that the work will never be performed by the ornithologists of the closet."

The *Cape Swallow* (*Rousseline*, of Levaillant) passes the entire summer at the Cape. It is also the species found most frequently and abundantly over the entire southern point of Africa. It is met with every where, but more particularly in inhabited places. These birds are so familiar that they enter houses, and especially those belonging to the colonists of the interior, for in the town their visits are not much encouraged, an account of the dirt they occasion in apartments. The peasants, who are less scrupulous on this point, suffer them not only to establish themselves very quietly in their dirty halls, which bid defiance to contamination, but also behold them nestle with great pleasure in their chambers, because they regard them as birds of good omen. The nest of these birds, when constructed in a chamber, is attached to the ceiling against a beam, and built with clay, mixed up like those of our European swallows. But its form is altogether different. It is a hollow ball, to which a long

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tunnel is adapted, through which the female glides into the interior of the nest. Inside it is furnished with a profusion of the most downy materials. The eggs are four to six in number, white, sprinkled with small brown spots, and the incubation lasts from sixteen to eighteen days.

This species, in relation to its form, is probably that which some travellers, who have only seen it fly, have taken for our chimney swallow. Its gait, cry, and physiognomy are exactly similar.

The *Rufous-fronted Swallow* is exactly similar to the preceding in form, but characterized by a red band across the forehead. M. Levaillant only met this species during the rainy monsoon, and never in the breeding season. He therefore thinks it probable that it only passes the winter in the South of Africa, and never nestles there. The only difference he observed between the sexes was, that the female was not quite so large as the mail, nor had the tail so long.

Many of these swallows were found by this naturalist in a collection of birds made in Senegal. He thinks it probable that their true country is situated near the equinoctial, and that they quit this region to betake themselves southward to pass the rainy season, after having reared their young ones. The young which they bring with them, when they arrive at the Cape, incontestably proves that they nestle elsewhere.

The *Sharp-quilled Swallows* have a short, robust, and rounded tarsus; strong claws; the thumb articulated more highly in the tarsus than in the preceding species, and the croup is muscular. But they are more particularly distinguished by thick stalks to the caudal quills, which terminate in a sharp point, furnished with barbs, from which the name *Acutipennis* has been attached to them.

These swallows take the place of the martens in America, where the latter birds are not found; for the birds of this continent, on which this name has been imposed, are true

swallows. They rise to a very great height in the air, and are of a distrustful disposition, which always makes them keep out of range of shot. Their flight is uncertain and rapid, and they execute every motion which pleases them with the most perfect facility. Sometimes they may be observed clapping their wings with precipitation, sometimes extending them at full length, like broad vans winnowing the air. They pursue every direction which suits them, either horizontally, perpendicularly, or obliquely. They pass with much dexterity among the dry branches, and they are so essentially organized and destined for flight, that they never stop, or repose for a moment in the day.

The South American species nestle in the hollows of trees, or unite together in families. Those of North America usually establish their domicile in chimneys, where they construct a nest very ingeniously formed. In their plumage, manners, and style of life, they all present so much analogy that they would seem to compose only distinct races of one and the same species.

Among the most remarkable of these swallows is that called *Bibombi* (*Hirundo oxyura Vieil.*), which we shall take leave to call the *Sharp-tailed Swallow*, to distinguish it from the *aculeated Swallow* of Latham. M. D'Azara has described this swallow under the name of *Petit Martinet*, because he thinks that it resembles the marten of Europe. Like the latter, it cannot remain on the ground; but its crooked claws, very strong and sharp, give it a facility of climbing. Some, says M. D'Azara, name it *Mbiyuimbopi*, which means *bat-swallow*, because it has some resemblance to the bat in colour, and in its mode of flying, which is more rapid and uncertain than that of any other species. It is called by abbreviation *Bibompi* or *Bibombi*.

This species is very common in the woods of Paraguay. It always flies above the highest trees, and if in the open plain it sometimes approaches within forty or fifty feet of the

ground, it rapidly remounts to its ordinary elevation. It is a sedentary bird, and extremely wild. Like the other swallows, it drinks flying, and sometimes catches, as it passes, the spiders which weave their nets under the branches. It passes the night in the holes of trees. These swallows come to their retreats about sunset, in small flocks. Before they enter, they fly round about three or four times, and at a considerable distance from the tree. The cry which they utter in flying is something like the sound of a small castanet. There is no difference between the male and female, the young and adult.

The *Aculeated Swallow. Hirundo Pelasgia.* It is an inhabitant of Louisiana and Carolina. It is also found still farther north, even to Pennsylvania, and beyond. Everywhere it fixes its nest on the top of chimnies, or in the crevices of rocks, if it has no other choice of place. It constructs this nest with an industry peculiar to itself. First of all, it establishes a sort of platform, composed of dry branches, and cemented together with peach-tree gum, or that of liquid amber. These materials are in such abundance, that they sometimes stop up the aperture of the chimney. It is said, that the bird supports itself, during this labour, by applying the sharp points of its tail against the wall. On this sort of scaffolding it places the cradle of its young, which is composed only with small sticks, glued together with the same gum, and arranged like the osiers of a basket, such as is given to pigeons to hatch in. It is open at top, and forms about the third of a circle. The eggs are four or five, of an elongated form, very gross in proportion to the size of the bird, spotted and streaked with black and grayish brown towards the gross end, on a white ground.

The Goatsuckers (*Caprimulgi*) are so named from a most absurd notion, that they suck the mammæ of goats, a notion which may perhaps have originated in the enormous depth and aperture of the gape. This vulgarism is by no

means modern, for it appears, by the Greek appellative, to have existed in the time of Aristotle, though it seems probable, that the first application of the name might have had rather a figurative than a literal meaning. Many of the insectiverous birds, it is true, are found frequently near the persons of cattle and sheep while grazing—for the purpose, doubtless, of preying on the numerous insects which feed on the excretions from these animals; but this habit is common to many genera of birds, and gives no reasonable support to the notion in question, which is incompatible with the organization of the whole class. They are known among the peasantry in France by the name of *Engoulevent*, or Wind-swallowers, and *Crapaud-volant*, or Flying-toads, names which seem also to have reference to the extraordinary capacity of the gape.

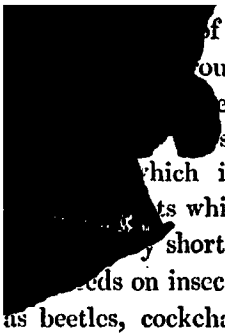
These birds are inhabitants of Europe, and, indeed, are found in almost all parts of the world; but they are rare here, and more so in appearance than reality, from their crepusculous habits. It is in the new world, especially South America, that they most abound, and are divisible into many species. Asia, and New Holland, moreover, are not without them.

Unfitted, like the owls, for full day-light, the Goatsuckers hide themselves in some obscure retreat. Twilight is their short period of activity, but the rapidity of their flight, and the size of the mouth, enable them to make the most of this limited time in procuring food. They devote no time to nidification, but deposit their eggs in simple concavities on the ground, and thus the time necessary for the two great occupations of animal existence, self-support and propagation, are proportioned to the comparative short periods of their activity. In the day, they sometimes utter a plaintive cry, repeated rapidly three or four times, and indicative of the then negative character of their desires, for they seem to want nothing but retirement and repose.

The *European Goatsucker* (*Caprimulgus Europeus*) is the only species known here. This bird has received a variety of popular names, which have been many of them, adopted by naturalists. Such as flying-toad, square-tailed swallow, night-raven, night-hawk, dorr-hawk, churn and fern owl, &c. Its food, mode of taking it, and style of flying caused it to receive the name of square-tailed swallow.

This bird is solitary; two of them are rarely seen together, and even then they preserve a tolerable distance from each other. It frequents mountains and plains, almost always conceals itself under a bush, or in the young coppices, and seems to give the preference to dry and stony soils, and those which are covered with briars. Its mode of perching differs from that of other birds; it fixes itself longitudinally on the branch, which it seems to tread like the cock, from which circumstance it is often called *chauche-branche* in many parts of France. It is difficult to be perceived, when in this position, from the dulness of its colours, and their approximation to that of the branches. It is when thus situated that it principally utters its peculiar cry, which having some resemblance to that of a toad, has gained for it, in France, the popular name of *crapaud-volant*. This cry is a plaintive sort of sound, repeated three or four times in succession. The noise which it makes in flying is dissimilar, and, according to some, is a cry of another kind. But, according to others, it is caused by the air, which it engulphs in its large throat, since it flies with its mouth open, which produces a humming noise, like to that of a spinning-wheel. This opinion seems probable, especially if it be true, as is asserted, that the sound varies according to the different degrees of velocity in the flight.

This demi-nocturnal bird never quits its retreat but towards twilight; or, if it ever do so, it is only in sombre and cloudy weather, for it is dazzled by a strong light. The



f light suits it best. If it happen to be oused of a fine day, its flight is low and everse, however, is altogether the case after sun. It is then quite lively, and active in hich is necessarily irregular, like that of the ts which constitute its prey, and which it can short and rapid zigzags.

eds on insects, especially those of the nocturnal kind, as beetles, cockchafers, moths, &c. It will also eat wasps, drones, &c. It has been observed, that this bird has no occasion to close its bill to secure the insects, the interior being provided with a kind of glue, which appears to come from the upper part, and which is sufficient to retain them.

This bird has one habit peculiar to itself; it will make, about one hundred times, in succession, the circuit of a large leafless tree, with an irregular and very rapid flight. And from time to time, it will drop abruptly down, as if to fall upon its prey, and then suddenly rise again in the same manner. At such times it is exceedingly difficult to bring it within range of shot, for on the advance of the fowler, it disappears so rapidly, that it is impossible to discover the place of its retreat.

An elegant and artificially constructed nest, requires the assistance of day-light, and the love of labour. We must not then expect it from this bird, condemned by nature to remain during the day in a sombre and solitary state of inaction. A small hole at the foot of a tree, or of a rock, and sometimes even in the naked and beaten ground, is the place where the female deposits her eggs. These are rather more bulky than those of the blackbird, oblong, lightly shaded, and marbled with blackish points on a white ground. We are assured, that she hatches them with the greatest solicitude, and that when she discovers that they have been

observed, she changes their place, by pushi
dexterously with her wings into some other
times even carrying them there with her bil

This goatsucker is migratory. It arrive
in spring, and departs in autumn. In the latter
greater number of these birds are usually seen,
preparing to quit us for other regions, where
more abundant. These birds are found from th
northern parts of Europe even into Africa. They pass the month of April in Malta, whither they are carried by the south-west wind, and where they are also found in great numbers in the autumnal season. They do not arrive in this country until towards the end of May, and they leave us about the middle of August. They remain later in France, and may be seen even in November. It is said, that many birds of this species have been killed in the woods of Vosges, in the middle of winter and in the depth of snow. Still, however, this must be very rarely, as, at such periods, the insectivorous birds must experience the greatest difficulty in procuring an adequate supply of aliment.

The *Leona Goatsucker*, *Cap. longipennis* and *macrodipterus*, is remarkable for a long single feather issuing from the wing, the shaft being without web till near the end where the web is broad; this feather is much longer than the bird itself. The species, as to colour, is assimilated to the common goatsucker. Very little is known of its habits, though many specimens have been brought to England: our figure is from one in the late Riddell's museum.

The *Virginian Goatsucker* is found from Virginia as far as Hudson's Bay, after the middle of April. Unlike most of its congeners, this species does not prefer the tops of trees, but resorts to bushes, or the top of a post or rail, whence it will leap up to catch the insects, as they pass over it. For some time about sunrise, and again at sunset, it is constantly

LEONA GOAT-SUCKER.

C. MACRODIPTERUS.

London, Published by G.B. Whittaker, Nov. 1826.

repeating a cry in a very sharp tone, which has been expressed by the compound word *whip-poor-will*, and hence the bird has been so called. It is said to eat bees. Its eggs are greenish brown, with zigzag black stripes; these it deposits negligently, sometimes in the middle of a beaten path.

The *Cayenne*, or *White-necked Goatsucker*, of Latham, is said to be less nocturnal in its habits than the other species; it is also more sociable, frequenting the vicinity of highways, nor does it move until approached very closely, and then only to a short distance. It is said to utter two sorts of cry, one like that of the toad, and another which has been compared to the barking of a dog; while uttering the former, it is said to shake the wings.

The *Collared Goatsucker*, *C. Pectoralis*, probably the *C. Asiaticus*, or Bombay Goatsucker of Latham, was observed by Levaillant on the banks of the Gamtoo in Africa, where it is very common.

During the time of incubation the male begins its loud and singular song about an hour after sunset, and if the night be fine, continues till daylight. Levaillant states, that while he had the misfortune to be encamped in the vicinity of these birds, it was impossible for him to sleep on account of their ceaseless singing. The female lays two white eggs, with the shells so exceedingly thin and brittle, that it requires great caution to handle without breaking them. Notwithstanding this, the bird, like those before mentioned, deposits these eggs frequently in the middle of a path. The male sits as well as its female, and when so occupied, the bird will not move on the approach of any one until in actual danger of being trodden on. After the eggs have been touched, they are sure to be removed, and probably to a considerable distance; for Levaillant, under these circumstances, was never able to find them again. He had an opportunity of observing the mode in which they carried them off, by placing

himself within sight of the eggs in a tree. The female first came to them after they had been handled by him, and flying to the ground a short distance from the eggs, approached them gently step by step, and having ascertained that they had been touched (by what faculty it does not appear), she walked several times round them, with her beak close to the eggs; she then uttered several cries, at the same time resting on her breast, and beating the ground with the wings; this seemed to bring the male bird, which immediately commenced the same cry, and the same operations; after which they both flew a few times round the eggs, and then suddenly each took one in the mouth, and disappeared on the wing.

M. Levaillant found another species of goatsucker in South Africa, remarkable for its size—this was the *Fork-tailed Goatsucker*. This character of tail is unique in this genus. Of all the different species mentioned by nomenclators, this one alone has the tail of this form. It is six-and-twenty inches long from the point of the bill to the extremity of the longest feather of the tail, which is the last lateral one on each side. The bill of this large goatsucker is of an enormous width, and terminates in a small hook, more resembling a talon, than the end of a bird's bill. A proof how little it was the intention of nature that these birds should engulph a quantity of wind, when in pursuit of insects, is that there is no bird whose mouth is so firmly closed. In fact, the construction of the bill is so managed, that the lower mandible covers the upper at the corner of the mouth by a small projecting edge, and the upper, by a sort of lid, covers again the lower, which last is firmly enclosed as far as a very marked notch about the middle of the upper. After this notch, the upper mandible grows suddenly very narrow, and emboxes itself in the lower, which is conformed to receive it with a proper edge, and is itself finally surmounted by the end of the upper one, which holds it firmly, and curves beyond it in the form of a

hook. From this perfect union of the two mandibles, this bird appears, when the mouth is closed, to have a very small bill—"Those who imagine," says M. Levaillant, "that these birds always fly with their mouths open, are very grossly deceived. They frequently place themselves on the ground, for the purpose of collecting the insects there, and in taking them on the wing, it does not appear necessary that they should always keep their mouths gaping open. We find the bee-eaters, the martens, and all the swallows, take insects on the wing, and we never see them open the bill until the moment they are near enough to snap them up. It is probable that the goatsucker does the same. Nature, who is never deceived, nor does any thing in vain, would scarcely have constructed the bill of this bird with so much care, and sealed it so hermetically, if it was always to be wide open, that the bird might procure its nutriment. M. Levaillant has given an excellent representation of the bill of this bird, both open and closed, of the natural size. This goatsucker, from the forked tail, has a still greater analogy with the swallows than the rest of its congeners. The wings are about forty inches from tip to tip, and when folded extend as far as the feathers of the tail.

The fork-tailed goatsucker was discovered by the naturalist we are citing, on the banks of the river of Lions, in the country of the great Namaquois, in the interior of the Cape. It was by a singular chance that he procured both male and female of this species. One day, hunting on the banks of this river, accompanied by his native attendant, they were assailed by a hurricane with tremendous rain, which forced them to retire under some very large mimosas for shelter. Looking around, they beheld a very thick tree quite dead, whose stalk, almost entirely hollowed, contained a vast hole, which communicated into the whole body of the worm-eaten trunk. Hoping to find some insects under the bark of this tree, they approached; but when they came there, they heard,

in the interior of the tree, a low humming noise. Not knowing what this could be, they took some precaution to ascertain from what kind of animal the noise proceeded, fearing, with some reason, that a nest of serpents might be lurking there. They were, however, much surprized by finding two large birds, which they drew out of the hole, one after the other. M. Levaillant preserved them alive for two days. The light of the sun so affected them, that they did not attempt to escape during the day, but they made a desperate bustle at night in a basket in which they were confined.

These were the only two of the species which M. Levaillant ever saw. During the night alone they uttered a tremulous guttural sound, with the mouth so wide open that a large apple might have been introduced into it. The tongue of this bird is very small, and placed at the entrance of the throat. The species does not appear to be common.

The *Urutau* (*Caprimulgus cornutus* of Vieill.) is so named from the short erect feathers over each eye having a fancied resemblance to horns. D'Azara informs us, that they remain in Paraguay from October to February, and perch on high trees, clinging by the claws in the manner of the woodpecker, and very seldom come to the ground. The male and female answer each other during the whole night by long and melancholy cries. They lay two brown and spotted eggs in a small cleft of a dry tree, and without any nest; and, according to credible information received by D'Azara, the female sits on, or rather covers, these eggs by hanging vertically on the side of the tree, and bringing the breast on the small cleft which contains the eggs. The report in the country is, indeed, that these birds have the means of affixing their eggs to the tree by means of some agglutinous substance, but M. D'Azara was not able to verify this statement. It may derive some degree of probability, from the consideration that the mouth of all the species of this genus seems to be furnished with a sort of gluten which assists them in the capture of insects, and

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SCISSARS-TAILED GOAT SUCKER.

C. MACRURUS, Tem.

Published by G.B.Whittaker March. 1828.

of insects, and by means of which, in some species, at least, it seems they are enabled to retain many insects of small size at a time in their mouth, and thus to swallow a number of them together.

M. D'Azara, in his work on the Animals of Paraguay, has described several species of these birds, short specific characters of which are given in the table. His valuable observations, however, afford little on their habits, instincts, and manners, to interest, beyond what is above stated.

One species, however, is too remarkable to be confounded. It is the *Ibigau* of Paraguay, the Scissars-tailed Goatsucker, *Caprimulgus psalurus*. D'Azara saw but few of these birds, always alone, and in the middle of winter only frequenting rivers, and flying near the surface of the water. When they alter the direction of their flight they open wide the scissars-like feathers of the tail. These feathers, of which the outermost run out to a considerable distance from the rest, bear some analogy to the long feathers which proceed from the shoulder of the Leona goatsucker, except that in the latter species the feathers are barbed only at the end, whereas in this the barbs are longest near the insertion, and diminish by degrees toward the tip. This character is much more remarkable in the old males than in the females, or young birds. We insert a figure from M. Temminck's work.

Like the rest of the genus, the prevailing colour of this bird is dark brown, varied with spots of different forms and sizes, lighter brown, and white; the neck is yellow, and the ground colour of the throat yellowish white.

The strength of the bill is the principal character which distinguishes our author's genus, Podargus, from the common goatsuckers. If their bill were more compressed it would resemble that of the owls, to which, indeed, this group of the goatsuckers is much assimilated, by nocturnal habits, the nature of the plumage, and the stiff bristly hairs which surround the base of the upper mandible.

The opposite figure of one of these birds is from a specimen in the museum of the Zoological Society. Its characters are like those of Podargus Javanensis of Dr. Horsfield, having many long loose feathers proceeding horizontally from the root of the upper mandible, which gives the bird a singular and grotesque appearance. The general colour is dark brown, lighter on the lower part, with transverse bars on the wing-coverts and tail. Mr. Vigors, who is about to describe it in the "Zoological Journal," names it *P. Auritus*.

The *Trinidad Goatsucker* of Dr. Latham, which seems also to be the *Steatornis* of Humboldt, seems either to belong to this division, or else to be entitled to a generic separation. We subjoin Dr. Latham's account of it, as communicated to him by Mr. Thompson, except of the specific characters, for which we refer to the table; he names it the *Trinidad Goat-sucker*.

They inhabit coves of the islands forming the Bocate, an entrance into the Gulf of Paria, accessible only at the very lowest ebb tides, and in moderate weather; and as they are never observed on the wing in day-time, most probably, like the rest of the genus, they seek their food in the absence of the sun. Here they breed during the early part of the spring; and it is at the time of new and full moons in April and May that the people who are acquainted with these coves, resort thither to take the young, and such of the old birds as they can knock down with sticks.

They have a strong and disagreeable fishy smell, but some people resemble it to that of the cockroach; and when dressed they look like a round lump of fat, the little flesh there is tasting more like that of a sucking-pig than any other, but yet with a flavour and lusciousness peculiarly its own. But what is most extraordinary is, that in a family supposed to be wholly insectivorous, this should constitute a singular and solitary exception, and be found to subsist, at least during the breeding season, entirely on fruit; for on examining the

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LONG-EARED PODARGUS.

PODARGUS AURITUS. Vigors & Horsfield.

London, Publ.d by G.B. Whittaker Nov 1826.

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GOATSUCKER FROM PERU.

CAPRIMULGUS.

London, Published by G.B. Whittaker, July 1829.

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